

**ROLE PERFORMANCE OF FIELD EXTENSION FUNCTIONARIES IN
TRANSFER OF TECHNOLOGY IN DAIRY SECTOR OF
BANGALORE DISTRICTS**



**THESIS SUBMITTED TO THE
ICAR- NATIONAL DAIRY RESEARCH INSTITUTE, KARNAL
(DEEMED UNIVERSITY)
IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE AWARD OF THE DEGREE OF
MASTER OF SCIENCE
IN
AGRICULTURAL EXTENSION EDUCATION
BY
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ADUGODI, BANGALORE-560030, KARNATAKA, INDIA**

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Approved by:


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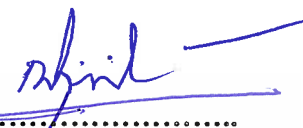
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*DEDICATED TO
MY
BELOVED PARENTS
AND
GUIDE*

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“Gratitude is the most exquisite form of memory”

The unprecedented occasion evokes a notion to reciprocate those who have bestowed this venture to its dream destination either directly or indirectly.

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Place: Bangalore

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(Diksha Patel)

ABSTRACT

The present study was taken up with specific objectives to study the role performance of field extension functionaries (FEFs) in transfer of technology of the Department of Animal Husbandry & Veterinary Services (DAH&VS) and Karnataka Milk Federation (KMF) in Bangalore Rural and Urban districts, to know the socio-personal, socio-psychological, organisational and communicational characteristics of FEFs in relation to their role performance and to identify the constraints faced by them in transfer of technology. A sample of 120 respondents was selected through simple random sampling from DAH&VS and KMF, who were actually involved in field extension activities/ technology transfer. A well-structured and pre-tested questionnaire was developed and used for data collection. The study revealed that majority of FEFs possessed medium level of role performance in transfer of technology. The major findings of the study includes, majority of FEFs were in the middle aged group, male, possessed B.V.Sc. & AH qualification, had rural background, with medium level of work experience and training exposure. Most of the respondents perceived favourable attitude towards work and organisational climate, medium level of job involvement and achievement motivation. Further majority of respondents experienced medium level of job stress and low level of social participation. Nearly two-third of the respondents were moderately satisfied with their job and had medium level of information seeking behaviour.

It was found from relational analysis that age, work experience, training received, gender, marital status, social participation, attitude towards work, job involvement, job satisfaction and organisational climate had positive and significant relationship with role performance while job stress had significant negative relationship. The significant variation in role performance was explained by the independent variables covered under this study was to the extent of 52.40 per cent, where job satisfaction, job involvement, social participation and marital status in their order of importance were the contributing factors respectively. Inadequate staff strength in department, lack of proper transfer policy, poor infrastructural facilities, lack of input supply for programme implementation and poor transport facility were the important constraints faced by FEFs in effective transfer of technology. From the above findings, it could be inferred that enhanced role performance of FEFs for effective transfer of technology could be achieved through providing more in-service and refresher training programmes to the FEFs to increase their knowledge and skill to perform various field extension activities efficiently. FEFs could be motivated to participate more in professional societies in order to enhance their knowledge and performance in extension activities. Policy makers of both the departments need to pay due attention to weed out undesirable factors/ conditions and to create conducive working environment for enhanced role performance to aim at effective transfer of technology for sustainable progress and development of the farming community.

सारांश

वर्तमान अध्ययन बंगलौर ग्रामीण और शहरी जिलों में पशुपालन एवं पशुचिकित्सा सेवा विभाग (DAH&VS) और कर्नाटक मिल्क फेडरेशन (KMF) की प्रौद्योगिकी के हस्तांतरण में फील्ड विस्तार कार्यकर्ताओं (FEFs) की भूमिका प्रदर्शन का अध्ययन करने के लिए विशिष्ट उद्देश्यों के साथ उठाया गया था, FEFs की भूमिका के प्रदर्शन के संबंध में उनकी, व्यक्तिगत, मनोवैज्ञानिक, संगठनात्मक और संचार विशेषताओं को पता लगाना और प्रौद्योगिकी के हस्तांतरण में उनके द्वारा सामना की गई बाधाओं की पहचान करना था। 120 उत्तरदाताओं का एक नमूना लिया गया जो वास्तव में क्षेत्र विस्तार गतिविधियों या प्रौद्योगिकी के हस्तांतरण में शामिल थे, और DAH&VS और KMF से सरल यादृच्छिक नमूना के माध्यम से चयन किया गया था। एक अच्छी तरह से संरचित पूर्वपरीक्षण प्रश्नावली विकसित की गई और डेटा संग्रह के लिए इस्तेमाल की गई थी। अध्ययन FEFs के बहुमत प्रौद्योगिकी के हस्तांतरण में मध्यम स्तर भूमिका प्रदर्शन अधीन है। अध्ययन के प्रमुख निष्कर्ष, FEFs के बहुमत मध्यम आयु वर्ग समूह में, पुरुष, B.V.Sc. & AH योग्यता, कार्य अनुभव और प्रशिक्षण के लिए मध्यम स्तर के साथ ग्रामीण पृष्ठ भूमि के थे। उत्तरदाताओं में से अधिकांश ने काम और संगठनात्मक वातावरण, नौकरी की भागीदारी और उपलब्धि प्रेरणा के प्रति मध्यम स्तर अनुकूल रवैया माना था। उत्तरदाताओं में से अधिकांश ने नौकरी तनाव के लिए मध्यम स्तर और सामाजिक भागीदारी के लिए निम्न स्तर का अनुभव किया। लगभग दो तिहाई FEFs उनकी नौकरी के साथ मामूली संतुष्ट थे और व्यवहार की मांग जानकारी के मध्यम स्तर की थी।

यह रिलेशनल विश्लेषण से प्राप्त किया गया कि उम्र, कार्य अनुभव, प्रशिक्षण, लिंग, वैवाहिक स्थिति, सामाजिक भागीदारी, काम के प्रति रवैया, नौकरी की भागीदारी, नौकरी से संतुष्टि और संगठनात्मक वातावरण का भूमिका प्रदर्शन के साथ सकारात्मक और महत्वपूर्ण संबंध था जबकि नौकरी के तनाव का महत्वपूर्ण नकारात्मक संबंध था। भूमिका के प्रदर्शन में उल्लेखनीय भिन्नता इस अध्ययन के तहत कवर कारकों द्वारा 52.40 प्रतिशत समझाया गया था। विभाग में अपर्याप्त कर्मचारियों की संख्या, उचित स्थानांतरण नीति की कमी, खराब ढांचागत सुविधाओं, कार्यक्रम कार्यान्वयन और गरीब परिवहन सुविधा के लिए इनपुट आपूर्ति की कमी, प्रौद्योगिकी के प्रभावी हस्तांतरण में FEFs द्वारा सामना की महत्वपूर्ण समस्याओं थी। ऊपर दिए गए निष्कर्षों से यह अनुमान लगाया जा सकता है कि प्रौद्योगिकी के प्रभावी हस्तांतरण के लिए FEFs की बढ़ी भूमिका प्रदर्शन कुशलता से विभिन्न क्षेत्र विस्तार गतिविधियों प्रदर्शन करने के लिए उनके ज्ञान और कौशल को बढ़ाने के लिए FEFs को सेवाकालीन और रीफ्रेशर प्रशिक्षण कार्यक्रमों में अधिक उपलब्ध कराने के माध्यम से हासिल किया जा सकता है। FEFs विस्तार गतिविधियों में अपने ज्ञान और प्रदर्शन को बढ़ाने के लिए पेशेवर संगठन में अधिक भाग लेने के लिए प्रेरित किया जाना चाहिए। दोनों विभागों के नीति निर्माताओं को जरूरत है कि वे अवांछनीय कारकों को साफ करने की वजह पर ध्यान दे और अनुकूल काम के माहौल बनाने की जरूरत है ताकि कृषक समुदाय का सतत विकास हो।

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LIST OF ABBREVIATIONS

AA	:	Agricultural Assistant
AAO	:	Agricultural Assistant Officer
AD	:	Assistant Director
ADA	:	Assistant Director of Agriculture
AM	:	Assistant Manager
AO	:	Agricultural Officer
B.A.	:	Bachelor of Arts
B.Com	:	Bachelor of Commerce
B.Sc.	:	Bachelor of Science
B.V.Sc. & A.H.	:	Bachelor of Veterinary Sciences and Animal Husbandry
BAHS	:	Basic Animal Husbandry Statistics
DAH&D	:	Department of Animal Husbandry and Dairying
DAH&VS	:	Department of Animal Husbandry and Veterinary Services
DM	:	Deputy Manager
EO	:	Extension Officers
FEFs	:	Field Extension Functionaries
GDP	:	Gross Domestic Product
GoI	:	Government of India
GoK	:	Government of Karnataka
ICT	:	Information Communication Technology
KMF	:	Karnataka Cooperative Milk Producers' Federation Limited
KSDA	:	Karnataka State Department of Agriculture
LDA	:	Livestock Development Assistant
M.V.Sc	:	Master of Veterinary Sciences
MoA	:	Ministry of Agriculture
NDDB	:	National Dairy Development Board
PG	:	Post Graduates
Ph.D.	:	Doctorate of Philosophy
SD	:	Standard Deviation
SEO	:	Sericulture Extension Officer
ToT	:	Transfer of Technology
UAS	:	University of Agricultural Sciences
UG	:	Under Graduates
VEWs	:	Village Extension Workers
VLI	:	Veterinary Livestock Inspector
VO	:	Veterinary Officer
VS	:	Veterinary Surgeon
WYTEP	:	Women and Youth Training and Extension Project

CHAPTER – 1

Introduction

1. INTRODUCTION

Agriculture is the well integrated sector of economy throughout the world and it is also an important part of Indian economy, where more than 70 per cent of the rural households directly depend on agriculture and allied activities. The total share of agriculture in national GDP is 13.9 per cent in 2014-15 (GoI, 2015). Agriculture besides providing occupation to the rural people, provides food to the population, the raw materials to the industries and certain items for exports. Animal husbandry and dairying are the integral parts of agriculture and play a key role in poverty alleviation and overall socio- economic development of the rural populace. These sectors play significant role in constant and assured family income, nutrition and generating gainful employment to rural masses particularly among landless labourers, small and marginal farmers and women. The total share of livestock sector is 25.6 per cent in agricultural GDP and contributing 4.1 per cent in national GDP (GoI, 2015).

Globally, India continue to rank first in milk production with annual output of 139 MT in 2014-15, accounting for more than 17.00 per cent of world's total milk production. Thus, dairying has become an important secondary source of income for 70 million rural households, who are particularly engaged in dairying. The agriculture sector has registered an annual growth rate of 3.8 per cent, while dairy sector registered an average growth rate of 4.18 per cent holds mirror to the sustained growth in availability of milk and milk products for the growing population (GoI, 2015).

Demand for milk and milk products is on increase as a sequel of the growing population, higher income and more health consciousness of consumers. Based on estimates by the National Dairy Development Board, the demand for milk is likely to reach 180 million tonnes by 2021-22. To meet the increasing demand and market supply, an average incremental increase of 5 million tonnes per annum over the next 15 years is required. A scientific and judicious use of natural resources is required for sustainable development. This calls for a greater co-ordination of research, extension and clientele group. India has the highest livestock population in the world, with 512.06 million which

include 190.9 million cattle, 108.7 million buffalo, (19th livestock census, 2012) and the per capita availability of milk is 299 grams/day (BAHS, 2014).

In the case of Karnataka State, dairying occupies an importance place in economic development of rural population. Karnataka ranks 11th in overall milk production with average milk production of 5.72 million tonnes in the country (NDDB, 2013), though the state is the second largest in milk procurement and processing under the cooperative sector next to Gujarat, and Karnataka Milk Federation (KMF) procures on an average 53.45 lakh kg of milk daily (GoK, 2014). The total milch animal population in the state is 27.70 million, which include 9.52 million cattle population, 3.47 million buffalo population and others. Per capita availability of milk in state is 262 grams/day (BAHS, 2014). Karnataka has been supplying quality milk to Kerala, Tamil Nadu, Andhra Pradesh, Pondicherry, Rajasthan, Madhya Pradesh and Orissa.

India has launched several dairy development programmes in last few decades which were aimed at the nutritional security, upliftment of socio-economic status of rural poor and their overall development. Most of the developmental programmes are planned and implemented by government agencies, with an active involvement of local organisations like farmer service cooperative societies, financial institution, voluntary organisation on one hand and rural people, on the other hand. The objective of these developmental programmes could be realised only when the field level extension personnel implementing the developmental activities perceive and understand their role better in order to perform them with all interest and ingenuity in their respective position.

The concept of role has assumed a key position in the field of sociology, social psychology and cultural anthropology. It is now frequently used as a central term in the study of the structure and functioning of the social system such as cooperative extension service as well as for the explanation of individual behaviour. Each person in an organisation occupies a position that is unique to the other individual. Success of any programme in an organisation depends highly on efficiency and role performance of its employees. It is clear that extent of role performance of the employees is very critical for any organisation. It is equally applicable to dairy organisation which is playing key role in social and economic upliftment of the country.

In Karnataka, Department of Animal Husbandry and Veterinary Services (DAH&VS) and Karnataka Cooperative Milk Producers' Federation Limited (KMF) play a major role in dairy development. Field extension functionaries of KMF and DAH&VS play crucial role in disseminating technologies to farmers. These are the important functionaries positioned in the interface of grass root workers and the higher managerial cadres. Research efforts are mainly focused to develop technologies to increase the livestock productivity, but this effort will not have any impact unless the technologies are transferred to the farmers. Technology transfer is a stream-lined flow of technical know-how from the researchers through extension personnel to the farmers, who develop, disseminate and adopt technologies respectively. The development of livestock productivity is mostly depending on effectiveness of extension functionaries. They are the change agent at the lower level of organisational set-up. Special extension efforts are needed to reach the rural people and communicate them effectively. It is almost impossible to ensure effective transfer of technologies needed for enhancing the productivity of dairy animals without an effective extension programme.

Extension plays a key role in raising the livestock productivity by offering technical advice, help farmers to identify their problems and opportunities, sharing information and supportive group formation. Extension is a central mechanism in the dairy development process, both in terms of technology transfer and human resource development. Management in extension is a complex process involving many varied responsibilities and activities required for successful accomplishment of objective of an organisation through the efforts of others. Management of human resources involves several important and complex issues in the form of multidimensional reactions involving employee's perception of the organisation climate, their personality background, the objective realization of organisational culture, leadership systems and intergroup relationship. This concept has changed drastically since the days of scientific management (Heyel, 1973). Today the impact of modern behavioural sciences has new insights and approaches to the management of human resources. This new insight has highlighted the concept of motivating people in the organisation as an important strategy. The main concern in the management of human resources is the improvement in the

performance of the people working in the organisation with a view to increasing their efficiency through motivation.

One way of enhancing the performance of the employees is to know their level of performance and delineate the factors responsible for it. According to Sharma (1986), employees performance refers to an act of fulfilment of the requirement of a given job *i.e.*, the manner in which an employee carries out his/her job efficiently. However, in many organisations especially under public sector the performance of the staff is assessed mostly to fulfil the organisational goals such as promotions, transfers and for determining the training needs. But in developmental organisations the performance of the staff is assessed in order to achieve some targeted objectives.

Any organisation, small or big needs constant studies and evaluation with a view to ascertain the measure necessary to improve areas of deficiency. So as to attain faster rate of growth and development towards achieving goals. Unless the employees are well informed about their performance and also their strong and weak points, it's very difficult for them to improve their level of performance. This is also considered as important for reinforcing the positive points and overcoming their weakness. Thus, measurement of role performance and its feedback plays an important role in knowing the efficiency of employees. In such condition, studies on role performance of officials of dairy organisation are very important to improve existing scenario of dairy industry.

1.1 Statement of problem

Success of any organisation depends on the performance of extension personnel at the grass root level. In order to achieve the objective set forth, it is important for organisation to know how well the field extension functionaries perform their role. The important position of this crucial change agent in the extension approach makes it necessary to understand him/her all dimensions. Knowledge of this would help in increasing the efficiency of the field extension functionaries of the Department of Animal husbandry and Veterinary services and Karnataka Milk Federation. This is particularly important from view of making organisation self supporting and self sustaining in long run, which calls for sound an efficient functioning of the organisation. Considering the above issues, the present study entitled “**Role Performance of Field Extension**

Functionaries in Transfer of Technology in Dairy Sector of Bangalore Districts” has been designed with the following specific objectives.

Objectives

1. To study the role performance of field extension functionaries in dairy sector for transfer of technology
2. To identify the factors influencing the role performance of field extension functionaries in transfer of technology
3. To identify the constraints faced by field extension functionaries and to evolve strategies for effective transfer of technology

1.2 Scope of study

The findings of the study would bring out the level of role performance of field extension functionaries of Department of Animal Husbandry and Veterinary Services and Karnataka Cooperative Milk Producers’ Federation Limited. The study would also provide information on socio-personal, socio-psychological, organisational and communicational variables associated with their level of performance. It provides information about the important factor which influences the role performance of Field Extension Functionaries in transfer of technology. It also gives information on the problems faced by Field extension functionaries in discharging their duties and suggestions to overcome those problems. It is presumed that this information will be helpful to the planners and administrators in general to provide a suitable environment for increasing the role performance of field extension functionaries thereby, contributing for dairy development in Karnataka as well as in India.

1.3 Limitation of study

1. This study was conducted with certain limitations usually associated with social science researcher. The collected data are in the form of expressed opinions of the respondents either verbal or written. Since the expressed opinion of the respondents, the objectivity is confined to their ability to recall correctly.

2. The limitation arises from the fact that the scope of the study is limited to the two dairy organisations of Bangalore districts. Therefore, the generalization of the study will be applicable to the study area and also to the area of similar condition.

3. Due to limitation of time and financial resources the study has been restricted to limited sample size and broader generalization of the study area may be done with caution.

4. The focus of the study was broad and there are numerous factors, which directly or indirectly affect the role performance but salient variables have been selected for study.

1.4 Organisation of the thesis

The present thesis is systematically organised into five chapters. The first chapter deals with the introduction, statement of problem, objectives, and scope of the study with its limitations. Review of literature has been presented in the second chapter. The third chapter deals with research methodology which covers locale of study area, description of study area, sampling plan, selection of variables and their measurement, method used in data collection and statistical tools applied to analyse the data. The significant finding of the study along with their discussion is presented in fourth chapter. The fifth chapter deals with summary and conclusions. In the end bibliography and appendices are given.

CHAPTER – 2

Review of Literature

2. REVIEW OF LITERATURE

A review of literature is an integral part of research investigation. The main purpose of this chapter is to organise and present the findings of the past research studies, which are related to the present investigation. The review of literature leads the researcher to conclude his findings with reference to past studies. It is also necessary in developing conceptual framework and selection of appropriate design for the study. As the literature having direct bearing on different aspects of the present study is limited hence, the references having little or indirect bearings are also reviewed. In accordance with the objective of the study, a brief account of related literature has been reviewed and presented in following heads:

2.1 Concept of role

2.2 Role of extension worker

2.3 Concept of role performance and its measurement

2.4 Level of role performance

2.5 Socio-personal, socio-psychological, organisational and communicational characteristics of field extension functionaries

2.6 Relationship between the socio-personal, socio-psychological and organisational characteristics of FEFs with their role performance

2.7 Constraints faced by FEFs in role performance for transfer of technology

2.1 Concept of role

According to Davis (1949) how an individual performs in a given position as distinct from how he is supposed to perform, is called his role. The role is the manner in which a person actually carries out the requirements for his position.

Pearson (1951) refers to role as what the “actor does in his relations with others seen in the context of its functional significance for the social system”.

According to Biddle and Thomas (1966) the idea of role has been used to denote prescription, description, evaluation and action. It is referred to overt and covert behaviour of self and others behaviour.

According to Prashad (2000) organisations are social units, or human groupings, deliberately constructed to seek specific goals. Organisational tasks are distributed among various positions as roles. Each member in an organisation occupies a specific position which is directly or indirectly associated to other positions in the hierarchy of organisational chart. This constitutes his role set and it usually includes his superiors, subordinates, peers and outsiders with whom he has got related relationship. In the organisation every person is expected to behave in a particular manner while performing a specific role.

Kumar *et al.* (2012) stated that a role is a set of connected behaviour, rights, obligations, beliefs and norms as conceptualized by actors in a social situation. Extension personnel are engaged in the activities necessary for the agricultural and rural development. Every position of the extension personnel has some ascribed or desired roles which are considered necessary by its counter position or clients or self.

2.2 Role of extension worker

According to Ramakrishnan (1966), the extension worker has different roles, while working for agricultural and community development programmes. Those roles are (a) planner, (b) organiser, (c) catalyser, (d) leader, (e) friend, (f) enabler, (g) expert, (h) coordinator, (i) evaluator, and (j) researcher.

2.3 Concept of role performance and its measurement

Levinson (1959) explained role performance in terms of overt behaviour of an individual. It is more or less a characteristic way in which the individual acts as occupant of a position.

Cummings (1972) opined the term staff assessment and said that overall objectives of staff assessment is to improve the efficiency of an enterprise by attempting to organise the best possible efforts from the individuals employed in it.

Dwivedi (1982) defined the performance appraisal as assessment of performance measures of different individuals holding similar areas of work responsibilities and relates the determination of worth of these measures for the accomplishment of organisational goals.

Talukdar and Laharia (1986) used average of qualitative and quantitative criteria for measuring job performance of Agriculture Development Officers. Qualitative performance was rated by their immediate superiors and quantitative performance was directly obtained from the Agricultural Development Officer.

Bharadwaj *et al.* (1989) stated that job performance is the extent of performance of the job in view of expectations as stated in the job chart.

Job card has been used to assess job performance of extension personnel in two ways Firstly self-assessment by the extension personnel themselves (Kherde and Sahay, 1972; Siddaramaiah and Shivalingegowda, 1987; and Thippeswamaiah, 1991) and secondly of the extension personnel by their superiors (Singh, 1970; Kolte, 1972). Rao and Sohal (1982) adopted self, superior and subordinate (beneficiary) rating to assess the performance of veterinary surgeons coupled with an account of physical targets to measure the job performance. Similar method was followed by Reddy (1986); Prabhakar *et al.* (1998); Mohan (2000) took the average of the superior and self rating score as the job performance score of the extension personnel.

Reddy and Reddy (1995) examined six independent variable to study the role performance of farm leaders. These were achievement motivation, job involvement, task identity, personal importance, organisational commitment and role perception.

Bhopale *et al.* (1998) studied seven job areas in his study on role perception and role performance of assistant plantation officers in social forestry, which includes planning, procurement, supply and service, public relations and extension work, supervision of nursery and field work, acquisition of technical knowledge, maintenance of records and official work.

Subbarao (2001) referred job performance as the degree of accomplishment of the tasks that make up an individual's job. It indicates how well an individual is fulfilling the job demands.

Sharma (2002) explained that performance is two things (i) it is the results that people get on the job and (ii) it is whatever they do that affects these results. Performance is the outcome of actions on the job and it is also the actions that produce that outcome.

Maity (2002) used the self rating, superior rating, and beneficiary rating for the assessment of role performance of Livestock development officers. Similar method is also used by Maity (2007) for assessment of role performance of Pranibandhu.

Goyal *et al.* (2015) used the self rating technique for assessment of job performance of veterinary surgeons.

2.4 Level of role performance

Mohan (2000) reported that majority (85.36%) of AAOs working under KSDA belonged to medium performance category of job performance, while 14.64 per cent were in low performance category.

Ingle *et al.* (2000) observed that 40.20% of Agricultural assistant, 34.70% of Agricultural Supervisors and 57.10% of agricultural officers has shown medium level performance in single window delivery system in Maharashtra.

According to Shashidhar (2000) role performance of sericulture extension officers of Karnataka state department of sericulture, with regards to 42.85% were in high performance category and 57.14% were in low performance category.

Gouder *et al.* (2000) in his study on Link workers under WYTEP revealed that majority (56.00%) of the respondents had medium level of role performance whereas 21.00 and 23.00 per cent of respondents had low and high level of role performance respectively.

According to Kalaivani *et al.* (2002) more than fifty per cent of ADAs, ADOs, AOs and AAOs of Coimbatore district of Tamil Nadu had medium to high level of job perception and majority of ADAs, ADOs, AOs & AAOs had medium to high level of job performance. A large majority of AAOs exhibited a high level of job performance due to their closer proximity to the farmers.

According to Maity (2002), majority of the LDA were identified as medium performer in livestock development activities by assessment methods done by self rating (71.00%), rating by superior (74.00%) and beneficiaries (66.00%) respectively.

According to Mishra (2005) overall job performance of extension officers revealed that only 9.84% were in high job performance category, majority (75.41%) belonged to medium and remaining 14.75% of Extension Officers were in low performance category. Among men category, 8.57 per cent of them were in high performance category, while 74.29 per cent men were in medium performance category and 17.14 per cent man extension officer's performance were low. Results with regards to women showed that 11.54 per cent of them were in high performance category while 76.92 per cent were in medium performance category and 11.54 per cent of women extension officer's performance was low.

Nagananda (2005) studied organisational climate perception of ADA, and AO of KSDA and found that the high per cent of ADA (76.70%) and AO (63.30%) belonged to medium level job performance category.

Patel (2006) in his study revealed that majority (72.50%) of the extension personnel had medium level of job performance, followed by the low and high level of job performance with 14.50 per cent and 13.00 per cent, respectively.

According to Maity (2007), pranibandhu were identified as average performers by assessment methods done by self rating (60.00%), rating by superiors (69.00%) and beneficiaries (65.00%) respectively.

According to Wankahade *et al.* (2007) role performance of AA revealed that the AA themselves and their supervisors expressed medium level of role performance.

According to Sandika *et al.* (2007) majority of Veterinary Officers and Veterinary Livestock Inspectors of Belgaum district of North Karnataka, (55.00%) were in medium job performance category followed by 33.00 per cent in high job performance category.

According to Manjunath *et al.* (2008) majority of the teachers (70.15 per cent), researchers (59.52 per cent) and extension workers (66.67 per cent) were found in the medium level of teaching productivity category.

According to Aimable (2011), among the teachers of University of Agricultural Sciences, Bangalore 38.00% belonged to high, 28.00% to low and 34.00% to medium job performance categories.

According to Nagayach *et al.* (2011) majority (71.00%) of assistant veterinary officers fall in the high level of performance, while 20.00 per cent fall in medium and only 9.00 per cent fall in low level of role performance category.

According to Okwoche *et al.* (2012), 60.00% of the agricultural extension workers of Nigeria had a moderate level of job performance.

Goyal *et al.* (2015) found that majority (55.00%) of veterinary surgeon had medium level of job performance followed by 33.00% in high and 12.00% in low job performance category.

2.5 Socio-personal, socio-psychological, organisational and communicational characteristics of field extension functionaries

2.5.1 Socio-personal characteristics

2.5.1.1 Age

Mohan (2000) revealed that 51.21 per cent of AAOs were in the age group of 35-50 years, while 12.68 per cent were above 50 years of age while remaining (36.11%) were below 35 years of age.

Mandavi (2002) reported that slightly more than half (51.46%) of the respondents were in middle age group and 43.69 per cent and only 4.85 per cent were old age group and young age group, respectively.

Nagananda (2005) in his study on organisational climate perception of ADA and AOs of KSDA found that 40.00 per cent of ADA as compared to AOs (23.30%) were in young age group. But, more percentage of AOs (50.00%) than ADA (30.00%) belonged to middle age group.

Sandika (2006) in his study revealed that majority (54.00%) of VOs belonged to middle age group, while 12.00 and 34.00 per cent of them high and low level of age group

Patel (2006) in his study on agricultural extension personnel found that majority (64.50 per cent) of the extension personnel were found to be in middle age group

followed by 34.00 per cent with old age group. The remaining 1.50 per cent of them was in young age group.

Maity (2007) found that majority of Pranibandhu (70%) were in the middle age group with mean age of 35 years.

Ratnayake (2012) found that 57.27 per cent of the respondents were belonging to young age group while 41.73 per cent were in middle age group and only 1.00 per cent were found in old age category.

Goyal *et al.* (2015) reported that majority (58.30 %) of the respondents belonged to young age group (up to 35 years) followed by the category of middle (36-50 years) and old (above 50 years) age, which accounts for 32.50 per cent and 9.20 percent respectively.

2.5.1.2 Gender

Castillo & Cano (2004) observed in his research on the job satisfaction among faculty members of college of food, agriculture, and environmental sciences that majority (88%) of respondents were male and rest 12 per cent were female.

Ratnayake (2012) in her study found that majority (77.00 %) of the veterinary assistant surgeons posted in Andhra Pradesh were male while only 23.00 per cent of the respondents were female.

Aimable (2011) in his study on teachers of UAS Bangalore found that 82.00 per cent were male and remaining 12.00 per cent were female.

Goyal *et al.* (2015) reported that majority (89.00%) of the veterinary surgeons were male while only 11.00 per cent were female.

2.5.1.3 Marital status

Tiwari (1989) found positive and significant relationship of marital status and job performance of livestock assistant.

Maity (2002) reported in her study that 86.00 per cent of LDAs were married whereas 14.00% were unmarried.

Patel (2006) reported that 100.00 per cent of the extension personnel were married and none was found unmarried.

Maity (2007) revealed that 88.00 % of pranibandhu were in married category and rest 12.00 % were in category of unmarried and marital status had negative and significant relationship with role performance of pranibandhu.

2.5.1.4 Educational Qualification

Mohan (2000) revealed that a majority (60.97%) of the AAOs were matriculate, 3.65 per cent had received education upto pre university level while 6.09 per cent were basic arts/science graduates, remaining were either UG/PG agricultural graduates.

Mandavi (2002) revealed that majority (94.17 per cent) of the VEWs were agricultural diploma holders, whereas 5.83 per cent of them were agriculture graduate.

Manjunath (2004) from the study on analysis of job perspective and scientific productivity of scientists reported that majority (71.43%) of extension workers belonged to medium education category, whereas, 23.81 per cent and 4.76 per cent of them belonged to low and high educational categories, respectively.

Nagananda (2005) reported that the majority (70.00%) of ADAs and (30.00%) AOs were post graduates.

Patel (2006) revealed that slightly more than three-fifth (61.00 per cent) of the extension personnel were educated up to diploma level, followed by 31.00 per cent had up to graduate level education. Very few (1.00 percent) have master degree and 7.00 percent had higher secondary level of education.

Ratnayake (2012) reported that about 67.00 per cent of VASs were B.V.Sc. & AH degree holders, and 33 per cent of respondents having master's degree while none of them found to have doctoral degree.

Goyal *et al.* (2015) found in his study that 57.50 per cent of respondents were having B.V.Sc & AH degree, whereas 42.50 per cent having M.V.Sc. degree and none of them found to have doctoral degree.

2.5.1.5 Rural urban background

Sundraswamy & Perumal (1992) reported that rural urban background did not have significant influence on the job performance of AAOs.

According to Gogoi and Talukdar (1998) family background was significantly correlated with research productivity and extension productivity of scientist.

Maity (2002) reported that 49.00 per cent of LDAs were from rural background, followed by town (40.00%) and only 11.00 per cent belonged to urban background.

Mandavi (2002) found that majority (88.35 per cent) of the respondents belonged to rural background, whereas 11.65 per cent of them were having urban background.

Devi (2004) found in her study that majority (97.00 %) of the extension personnel had rural background.

Patel (2006) in his study revealed that overwhelming majority (92.50 per cent) of the extension personnel came from rural area with farming as parental occupation, whereas only a microscopic minority of 4.00 per cent and 3.50 per cent of the extension personnel were having urban and rural background without farming, respectively.

2.5.1.6 Work Experience

Mohan (2000) reported that majority (75.66%) of AAOs had medium level of work experience, while 14.63 per cent and 9.75 per cent had high and low experience, respectively.

Mandavi (2002) revealed that majority (73.79 per cent) of the VEWs had medium level of service experience and (14.56 per cent) had low, whereas 11.65 per cent had high level of service experience.

Sasidhar (2002) in his study on conflicting roles affecting the Performance of VASs found that majority (63.90%) of VASs had medium experience, followed by high (22.77%) and low (13.33%) category.

Manjunath (2004) reported that majority (95.24%) of extension workers belonged to medium experience category, whereas, only 4.76 per cent of them belonged to high experience category. It was found that none of the extension workers belonged to low experience category.

Nagananda (2005) found that majority of the Assistant Directors of Agriculture (58.30%) belonged to medium job experience category as compared to Agriculture Officers (50.00%).

Sandika (2006) in his study revealed that majority (71.00%) of VOs belonged to medium level of experience category, while 10.00 per cent and 19.00 per cent of them were under high and low level of work experience category.

Patel (2006) revealed that majority (78.50%) of the extension personnel had medium range of service experience, followed by short and wide with 11.50 per cent and 10.00 per cent, respectively.

Maity (2007) found that majority (71.00 %) of respondents had 3 to 5 years of experience as a pranibandhu. However average service experience for all the respondents to be nearly 4 years.

Ratnayake (2012) observed that more than half (52.00%) of the respondents were the medium category of service experience, while 27.00 per cent of them were in short experience category followed by 21.00 per cent of them were in high category.

Goyal *et al.* (2015) found that more than half of the respondents (57.50%) were in short service experience, while 28.50 per cent were in medium service experience category and only 14.00 per cent were in high service experience category. The service experience of VSs ranged from 3 years to 32 years

2.5.1.7 Training received

Mandavi (2002) found that 66.02 per cent of VLWs received in-service training while 33.98 per cent of them did not received any type of service training.

Sandika (2006) reported that majority (66.00%) of VOs and VLIs of DAH & VS, Karnataka were not exposed to any type of training.

Patel (2006) found that exactly half (50.00 per cent) of the extension personnel have received 4 to 6 numbers of training, whereas slightly less than half (48.50 per cent) of the extension personnel received training more than 7 times and rest 1.50 per cent of them received training up to 3 times

Ratnayake (2012) found in his study that majority (65.00%) of the VASs had received 2-4 numbers of training followed by 15.00 per cent received more than four training, while 11 % were exposed to only one training programme and 9.00 per cent had not received any training.

Goyal (2013) found in his study that 55.00 per cent of respondents had received 3-7 numbers of trainings, followed by 31.00 per cent had received less than three and remaining 14.00 per cent of respondent received more than seven training.

2.5.2 Socio-Psychological variables

2.5.2.1 Attitude towards work

Mandavi (2002) reported that majority (66.02%) of the respondents had medium level of attitude towards work followed by high (17.48%) and low (16.50%) level of attitude towards work.

Brewer (2003) revealed that 54.00 per cent of the respondents were found to have medium level of attitude towards job, while 18.00 per cent and 28.00 per cent of them were in categories of high and low level of attitude towards work.

Michaels (2004) revealed that 76.00 per cent of the teachers were found to have medium level of attitude towards job, while 6.50 per cent and 17.50 per cent of them belonged to high and low level of attitude towards job categories.

Patel (2006) reported that more than three-fourth (77.00 per cent) of the extension personnel had favourable attitude towards work, while 15.50 per cent had highly favourable attitude and only 7.50 per cent of extension personnel had unfavourable attitude towards works.

Kiran (2007) found in his study that 42.86 per cent of extension workers had favourable attitude towards Job. Followed by 21.42 per cent and 35.72 per cent of extension workers were having less favourable and most favourable attitude towards Job respectively.

2.5.2.2 Job involvement

Mohan (2000) found that majority (74.39%) of AAOs had medium level of job involvement while 12.19 and 14.63 per cent had high and low level of job involvement.

Mandavi (2002) revealed that majority (74.76%) of the extension personnel had medium level of job involvement, whereas 7.76 per cent had high level of job involvement and 17.48 per cent had low level of job involvement.

Manjunath (2004) in his study revealed that majority (66.67%) of extension workers belonged to medium level of job involvement, while 23.81 and 9.52 per cent of them experienced high and low level of job involvement respectively.

Nagananda (2005) found that high per cent of both Assistant Directors of Agriculture(70.00%) and Agriculture Officers (78.30%) belonged to medium job involvement category.

Sandika (2006) in his study revealed that majority (66.00%) of VOs belonged to medium level of job involvement category, while 16.00 and 18.00 per cent of them high and low level of job involvement.

Patel (2006) indicated that majority (77.00%) of the extension personnel were moderately involved in their jobs, followed by 14.00 per cent and 9.00 per cent of them high and less involved in their jobs.

Ratnayake (2012) have found that 51.00 per cent of the respondents belonged to medium level of job involvement, followed by 23.00 per cent and 26.00 per cent who belonged to high and low level of job involvement respectively.

Goyal *et al.* (2015) found that more than half (55.00%) of the respondents belonged to medium level of job involvement, followed by 27.00 and 18.00 per cent, who belonged to high and low level of job involvement respectively.

2.5.2.3 Achievement motivation

Mohan (2000) reported in his study that the AAOs having high, medium and low achievement motivation were 19.21, 69.51 and 12.19 per cent respectively.

Rosaiah (2002) reported that 76.76 per cent of extension personnel had high level of achievement motivation and the rest (23.24%) had medium level of achievement motivation.

Manjunath (2004) reported that majority (66.67%) of extension workers belonged to medium achievement motivation category, whereas, 28.57 per cent of them belonged to high achievement motivation category and only 4.76 per cent belonged to low achievement motivation category.

Patel (2006) reported that about half of (50.00 per cent) the extension personnel had medium level of achievement motivation, while 34.00 per cent and 16.00 per cent had high and low levels of achievement motivation, respectively.

Aimable (2011) revealed that 42.00 per cent of teachers had high level of achievement motivation whereas 28.00 per cent and 30.00 per cent had low and medium achievement motivation respectively

2.5.2.4 Job stress

Mohan (2000) observed that 20.73, 64.63 and 14.63 per cent of AAOs were found to experience high, medium and low level of job stress, respectively.

Adesope and Agumagu (2003) reported from the study conducted in Nigeria that most of the respondents have considerable work experience on the job but income level is considerably low. Agricultural extension agents in the study area have medium job stress.

Manjunath (2004) in his study revealed that majority (80.95%) of extension workers experienced to medium level of organisational stress, while 14.29 and 4.76 per cent of them experienced high and low level of organisational stress, respectively.

Sandika (2006) in his study revealed that majority (62.00%) of VO's belonged to medium level of job stress category, while 24.00 and 14.00 per cent of them high and low level of job stress category.

Goyal (2015) found that more than half (56.00%) of respondents experienced medium level of job stress, while 20.00 per cent and 24.00 per cent of them experienced low and high level of job stress respectively.

2.5.2.5 Job satisfaction

Mohan (2000) reported that majority (67.07%) of the AAOs had medium job satisfaction, whereas 20.73 and 12.19 per cent of the AAOs were having low and high job satisfaction respectively.

Mandavi (2002) observed that majority (79.79 per cent) of the VEWs were found to have medium level of job satisfaction, followed by 7.77 per cent had high and 18.44 per cent had low level of job satisfaction.

Manjunath (2004) reported that majority (95.24%) of extension workers belonged to medium level of job satisfaction, whereas, only 4.76 per cent of them belonged to high

job satisfaction category. It was found that none of the extension workers belonged to low category of job satisfaction.

Nagananda (2005) found that 65.75 per cent of ADA and 75.70 per cent of AOs perceived medium level of job satisfaction, while 16.70 per cent of ADA and 5.00% of AOs perceived high level of job satisfaction.

Sandika (2006) in his study revealed that majority (70.00%) of VOs belonged to medium level of job satisfaction category, while 12.00 and 18.00 per cent of them high and low level of job satisfaction.

Patel (2006) in his study reported that more than two third (69.00 per cent) of the extension personnel exhibited moderate level of job satisfaction, whereas high and low level of job satisfaction were found (16.00 per cent) and (15.00 per cent), respectively.

Kiran *et al.* (2010) reported that majority (62.50%) of the scientists from UAS Dharwad, had medium level of job satisfaction, while 20.00 and 17.50 per cent had high and low level of job satisfaction respectively, whereas more number of researchers (64.59%) and teachers (63.27%) were noticed in medium level of job satisfaction category, compared to extension workers (50.00%).

Goyal (2013) revealed that more than half (54.00%) of the VSs were having moderate level of job satisfaction, while 19.00 per cent and 27.00 per cent of them were having dissatisfied and highly satisfied category, respectively.

2.5.3 Organisational variables

2.5.3.1 Organisational climate

Mohan (2000) found that 73.17 per cent of AAOs perceived the organisational climate as facilitating, while 12.15 and 14.63 per cent perceived it as highly facilitating and not facilitating respectively.

Souvik and Vijayaragavan (2001) revealed that majority of the extension personnel perceived existing organisational climate as below average or poor and they were hardly satisfied with their job.

Manjunath (2004) in his study revealed that majority (66.67%) of extension workers belonged to medium level of organisational climate, while 23.81 and 9.52 per cent of them experienced high and low level of organisational climate respectively.

Nagananda (2005) in his study on organisational climate perception ADA and AOs of KSDA, found that majority of the ADA (73.30%) and around fifty per cent of AOs (53.30%) perceived the organisational climate as favourable, while 40.00 per cent of AOs and 8.30 per cent of ADA perceived organisational climate as less favourable.

Sandika (2006) in his study revealed that majority (55.00%) of VOs belonged to medium level of organisational climate, while 15.00 and 30.00 per cent of them experienced high and low level of organisational climate respectively.

Kiran (2007) revealed that 57.53 per cent of the total respondents perceived organisational climate as favourable, while 25.60 per cent 16.87 per cent of them perceived it as most favourable and less favourable respectively.

2.5.4 Communicational characteristics

2.5.4.1 Information seeking behaviour

Bosco (2000) found that 73.17 per cent of AAOs had a medium level of Information seeking behaviour, while 13.14 per cent of them had both low and high Information seeking behaviour respectively.

Mandavi (2002) found that majority (64.07%) of the respondents belonged to medium level of source of information utilization and also observed that 69.90 per cent had medium level of information input behaviour and 58.24 per cent of them had medium level of information processing behaviour.

Sandika (2006) revealed that majority (80.00%) of VOs regularly were reading the newspapers and watching television, followed by 28.57 per cent those who listening radio and 40.00 per cent of them were reading magazines regularly.

Patel (2006) in his study revealed that more than two third (69.00 per cent) of the extension personnel had medium utilization of information sources, whereas slightly less than one-fourth (23.00 per cent) of the extension personnel had high and only 8.00 per cent had low level of utilization of information sources.

Kaur *et al.* (2009) in their research study on information processing behaviour of home scientists in research system, revealed that professional recognition, communication facilities, information input behaviour and number of research projects

completed by the respondents were positively and significantly correlated with scientific information processing behaviour of home scientists.

Aimable (2011) found that 43.00 per cent of teachers were having medium level of information seeking behaviour, while 30.00 per cent and 27.00 per cent of them had high and low level of information seeking behaviour respectively.

Goyal *et al.* (2015) found that 51.00 per cent of VSs belonged to medium level of information utilisation, followed by 30.00 per cent and 19.00 per cent belonged to high and low level of information utilisation category respectively.

2.6 Relationship between the socio-personal, socio-psychological and organisational characteristics of FEFs with their role performance

Manjula (2000) in her study on AAOs found that age, education, rural-urban background, attitude towards work, achievement motivation, job involvement were positively and significantly correlated with job performance of AAOs, whereas job stress was negatively correlated with job performance.

Jain (2001) found that attitude towards work was positively and significantly correlated with job performance of district extension specialists (DES), whereas other characteristics like experience, mass media exposure, communication skills, physical facilities, superior behaviour were positively but non-significantly correlated with job performance.

Naik (2004) found that characteristics such as education, age, social participation, experience, contact with government officials were positively and significantly correlated with role performance of Grampanchayat chairperson, while caste, family size, land holding, occupation, annual income were non-significant with role performance.

Patel (2006) found that six variables viz. in-service training, education, number of reward/recognitions received, job involvement, aspiration and attitude towards monthly workshop were the major factors which positively influence the job performance of extension personnel.

Maity (2007) indicated that education, experience, communication in the organisation, cattle population of the area, extension contact and mass media exposure

had positive and significant relationship with overall self rated role performance whereas experience, availability of resources, mass media exposure and communication in the organisation had positive and significant relationship with overall superior rated role performance and on the other hand age had positive and significant relationship and communication in the organisation had a negatively significant relationship with overall beneficiary rated role performance.

Sandika *et al.* (2007) observed that job involvement and job satisfaction had positive and significant relationship with job performance of both Veterinary Officers and Veterinary Livestock Inspector, whereas age, education, job experience and trainings exhibited positive and significant relationship with job performance of VOs. On the other hand, age, job experience and job stress exhibited negative and significant relationship with job performance of VLIs.

Manjunath *et al.* (2008) have found that there was positive and significant relationship between job satisfaction, organisational commitment, organisational climate and achievement motivation of teachers and their teaching productivity. Job satisfaction, organisational commitment, organisational climate, achievement motivation, job autonomy and experience of researchers were found to be significantly related with their teaching productivity.

Aimable (2011) observed that job involvement and morale were positively and significantly correlated with job performance of teachers of U.A.S. Bangalore.

Mishra *et al.* (2011) in her study on extension officers of KSDA revealed that the variables namely; age, experience, job stress, organisational commitment and job satisfaction were significantly correlated with their overall job performance, where age, experience and job stress had significant but negative correlation at 1.00 per cent level of significance, however organisational commitment and job satisfaction were found positively significant with the job performance at the 5.00 per cent level of significance.

Ifenkwe (2012) in his study on role performance Agricultural Extension Staff in Abia State, Nigeria revealed that agent's personal characteristics that positively and significantly correlated with job performance were formal education, previous job experience, reason for joining extension service, childhood experience and age, whereas sex and marital status correlated negatively.

Ratnayake (2012) in his research found that technical knowledge, training received, work motivation, self-esteem, work involvement, job satisfaction, attitude towards organisation, physical facility, timeliness of availability of facilities had positive and significant relationship with VASs self rated role performance whereas job stress showed negative and significant relationship with role performance.

Goyal *et al.* (2015) in his study on VSs indicated that age, service experience, training received source of information utilization and job involvement had positive and significant relationship with job performance whereas span of control, distance of posting and job stress had negative and significant relationship with job performance of VSs.

2.6 Constraints faced by FEFs in role performance for transfer of technology

In extension work, many constraints are faced by the field extension functionaries which hinder the transfer of technology from them to farmers. Therefore, for better result of any extension approach it is very essential to minimize the constraints as far as possible. The constraints faced in the way of transfer of technology are reviewed and presented below:

Sundarambal and Annamalai (1999) reported that majority of extension personnel from Tirupur agricultural division of Coimbatore District perceived lack of farmer participation in meetings and trainings and lack of timely input supply were the major constraints in transfer of dry land technology.

Mohan (2000) reported that the important problems expressed by AAOs were non-availability of transport, lack of co-operation and interest from farmers, political interference, interest of farmers in physical inputs rather than technology, lack of interest in adoption of technology by the farmer, lack of freedom for decision making, lack of support from seniors, urgency to get the work done and non-availability of inputs on time.

According to Shashidhar (2000) constraints like frequent transfer, allowance given to SEOs to visit farmers are inadequate, lack of participation of farmers in sericulture extension work were mainly faced by SEOs.

Devi (2004) in her study found that lack of adequate field staff, lack of feedback, lack of financial resources, lack of adequate research and technical staff, lack of facilities for technology transfer, lack of training, lack of reward and recognition, lack of time for

media participation, lack of transport and infrastructural facilities were the important constraints faced by extension personnel in effective research- extension- clientele linkage.

According to Mishra (2005) the major problems encountered by men extension officers are transportation problem, followed by non-availability of inputs and too much of workload. For women extension officers cooperation from staff members in performing teamwork and communication from interior villages when they are either posted there or visit for arranging trainings or demonstrations act as a barrier in their performance.

Nagananda *et al.* (2006) reported that lack of promotional opportunities, political interference in implementing programmes, discrimination between different cadres of officers lack of recognition for good work, inadequate conveyance facilities, as important problems expressed by ADA and AOs in KSDA.

Patel (2006) revealed that the extension personnel faced problems in performing their job were over work load, target-oriented work rather than quality work, more scheme work rather than extension work, more jurisdiction, inadequate facilities and non availability of vehicle facilities, lack of interest on farmers side to learn scientific agricultural innovation, in sufficient funds to arrange demonstrations and mini kits, lack of required stationary, complicated procedure for administrative sanction.

According to Sandika *et al.* (2007) inadequate training, inadequate facilities like chemicals and medicines, inadequate conveyances facilities were the major constraints. In addition to that, lack of reward, recognition and appreciation for special achievements, lack of salary increment and relatively low salary and lack of appropriate promotion scheme were identified the major constraints in effective job performance of VOs & VLIs.

According to Sawant *et al.* (2007) non availability of funds and needed literature, and lack of time were constraints experienced by veterinarians in information input, processing and output.

According to Aimble (2011) lack of advance training, lack of transport facility, lack of adequate supporting staff, lack of opportunity for upgrading knowledge, lack of appropriate laboratory facilities were the major constraints faced by teachers in the UAS, Bangalore in their job performance.

According to Nnadi *et al.* (2012) the female extension agents of Nigeria were constrained by family problems, health condition, social barriers, inadequate training, inadequate methodology, poor transportation network, non-payment of salaries, delays in promotion and payments, evaluation problems, corruption and lack of working materials.

Ratnayake (2012) revealed that lack of awards and rewards, ill equipped dispensaries and lack of conveyance for the VASs, insufficient policies and regulations for livestock development and low priority for discussion of field problems in the meetings were observed as serious constraints.

Ogunwale *et al.* (2013) it was found that inadequate funding, insufficient number of extension personnel, poor rural infrastructure facilities and untimely supply of farm input to farmers are major constraints faced by village extension worker of Nigeria.

Prabhavati *et al.* (2013) found in her study on women officers of KSDA that dominance of higher officers, misunderstanding and non-cooperation, lack of technical knowledge of subordinates and difficulties in family like taking care of children were the important problems perceived by them.

Pramila *et al.* (2013) reported that inadequate or lack of transport facilities from residence to work place, lack of proper diagnostic facilities, lack of conveyance facilities to visit farmers were major personal, technical and administrative constraints faced by lady Veterinary Officers of Karnataka State Animal Husbandry Department.

Goyal (2013) had revealed that lack of transport facilities for field visit, arbitrary target fixation for AI, poor research- extension linkage in department were major constraints experienced by VSs of DAH&D.

CHAPTER – 3

Methodology

3. METHODOLOGY

Methodology is the way or method or process in which various stages of analysis is employed systematically to solve the research problems and scientific conduct of research. Research methodology, in broad sense, refers to the process, principles, and procedures by which we approach our problems and seeks its answer. In social science, the term “methodology” is applied to know about how one carries out the process of research. This chapter deals with the method of research design, tools and techniques of scientific investigation employed in the light of objectives of the study. The methodology was adopted for conducting the study is presented as under the sub-heads:

- 3.1 Locale of the study
- 3.2 Description of Department of Animal Husbandry and Veterinary Services and Karnataka Cooperative Milk Producers Federation Limited
- 3.3 Research design
- 3.4 Sampling plan
- 3.5 Selection of variables
- 3.6 Operationalisation and measurement of variables
- 3.7 Techniques used in data collection
- 3.8 Statistical tools used in the study
- 3.9 Conceptual model for the study

3.1 Locale of the study

The study was conducted during 2014-15 in two purposively selected districts namely Bangalore Rural and Urban districts of Karnataka State, keeping in view the availability of time, the cost and the convenience of the researcher.

3.1.1 Description of the study area

Karnataka is a Southern part of the country located in 18°30' North latitudes and 74° East and 78°30' East longitude. It was formed on 1 November, 1956. Originally known as State of Mysore, it was renamed Karnataka in 1973. The state is having 30 districts and divided into 4 divisions namely Bangalore, Belgaum, Gulbarga and Mysore

division. The Bangalore division comprises the districts of Bangalore Rural, Bangalore Urban, Chikkaballapur, Davanagere, Kolar, Ramanagara, Shimoga and Tumkur.

3.1.2 Bangalore Urban district

The district is located in the south-eastern part of Karnataka. It is having an aerial extent of 2174 sq.km and is located between the north latitude 12°39' 32'': 13°14'13'' and East longitude 77°19'44'': 77°50'13''. It is surrounded by the Bangalore Rural district on the west, east and north and the Krishnagiri district of Tamil Nadu on the south. Bengaluru Urban district came into being in 1986, with the partition of the erstwhile Bengaluru district into Bengaluru Urban and Bengaluru Rural districts. Bengaluru Urban has four taluks: Bengaluru North, Bengaluru East, Bengaluru South and Anekal. The city of Bengaluru, capital city of Karnataka is situated in the Bengaluru Urban district. The Bengaluru Urban district has 17 hoblies, 668 villages, 112 gramapanchayats and 9 municipal corporations. Electronics City the pride of India and hub of Bengaluru's Information Technology companies is situated in Anekal Taluk. Out of the total population for 2011 census, 90.94 percent lives in urban regions of district and 9.06 % population of districts lives in rural areas of villages. The climate here is moderate. In summer it receives a good amount of sunlight. In winter it is not very cold. The lowest average temperature here is about 16–18 °C (61–64 °F).

3.1.3 Bangalore Rural district

Bengaluru Rural District came into existence on 1st August 1986 with the division of erstwhile Bangalore district into Bangalore rural and Bangalore urban, again Bangalore rural district bifurcated into Bangalore rural and Ramanagar in 2007. The new district physically almost surrounds the northern side of the Bangalore (Urban) District opening Hoskote Taluk in the East, ends Nelamangala Taluk in the west. The headquarters of the new district is at Bangalore itself. The district occupied 16th place in size, in the State. Bangalore Rural District is located in the South-Eastern corner of Karnataka State. Spanning a Geographical area of 2,259 sq.km, the district lies stretched between the latitudinal parallels of 12° 15' N and 13° 35' N on the one hand and the longitudinal meridians of 77° 05' E and 78° E on the other. The district is on the plateau with an average elevation of 629 to 950 metres from mean Sea level. Presently in Rural district, there are 2 divisions, 4 Talukas, 35 Hoblis (cluster of villages), 1,713 inhabited

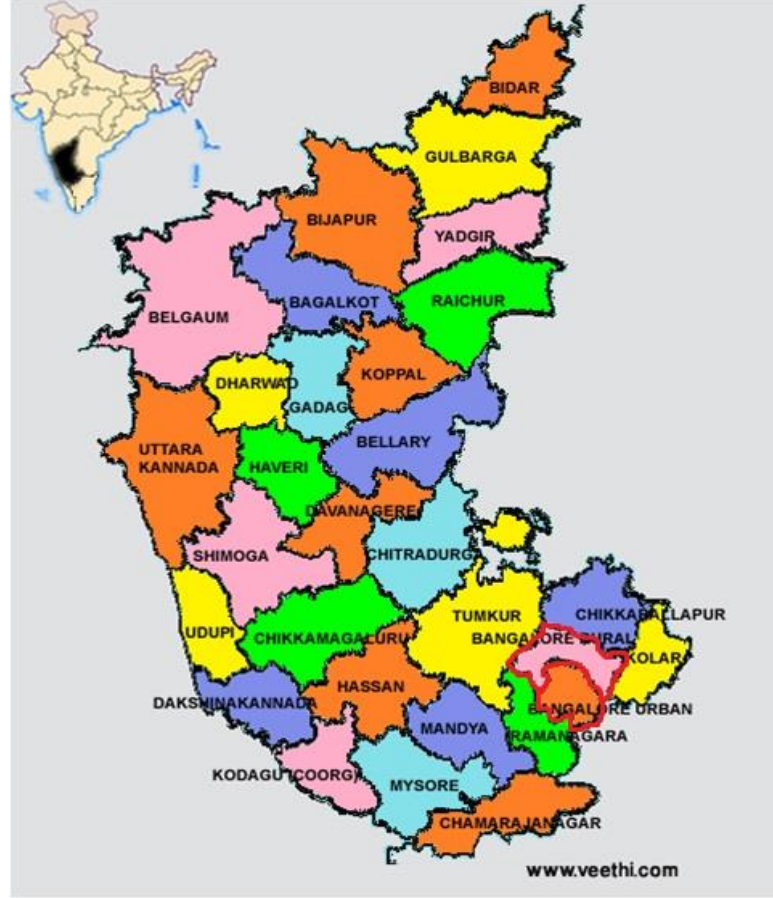


Figure 3.1: Map of Karnataka showing the selected two districts (outlined by red colour)

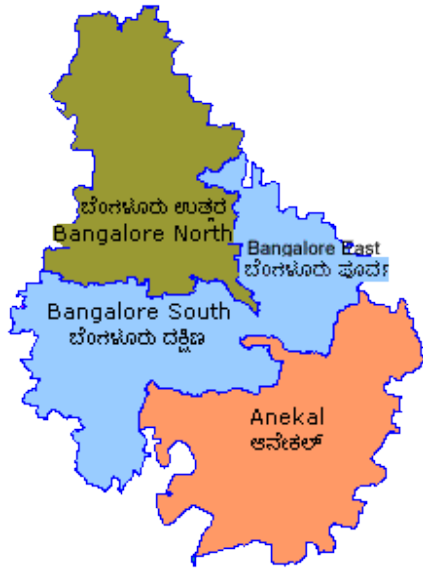


Figure 3.2: Map of Bangalore Urban District

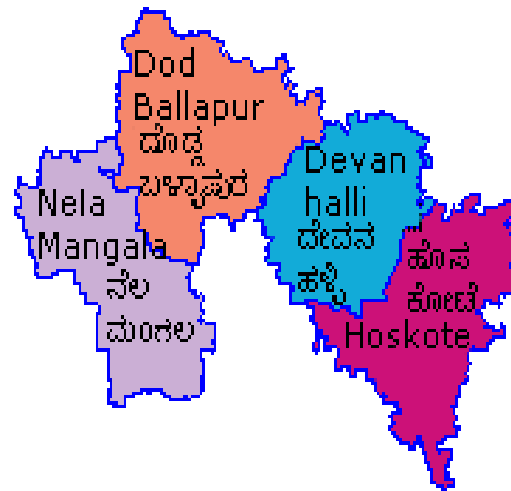


Figure 3.3: Map of Bangalore Rural district

and 177 uninhabited villages, 9 towns and 229 Gram Panchayats. Proximity to the city of has its own impact on the district, with a considerable daily commuting population. The rural people are mostly agriculturists, although with the advent of Special Economic Zones in the area, service and IT industries are booming. The district is endowed with agricultural and horticultural crops such as ragi, rice, groundnut, sugarcane, castor, grapes, mulberry, etc.

Table 3.1 Profile of Bangalore Urban and Rural districts

Sl. No.	Particulars	Bangalore Rural district		Bangalore Urban district	
General profile					
1	Total area (Sq. Km) 2011 census	2259		2190	
2	Total population (in Nos.)	987257		9621551	
		Male	Female	Male	Female
		507486	479771	5022661	3426599
3	Number of Taluka	4		4	
4	Number of Hoblies	35		17	
5	Population density	441		4381	
6	Sex ratio	945		916	
7	Literacy rate	78.29%		87.67%	
Source: Census, 2011					
Animal husbandry profile					
1	Livestock population (in Nos.)				
	Cattle	132334		70949	
	Buffalo	15644		1236	
	Goat	49031		18126	
	Sheep	27801		11351	
Source: Livestock census 2012& statistical cell, DAH&VS , GoK, (2013-14)					
Veterinary institutions					
1	Veterinary hospital	8		22	
2	Veterinary dispensary	37		57	
3	Primary veterinary centre	27		22	
4	A.I. Centre	25		20	
5	Mobile veterinary centre	4		3	
6	Regional laboratory	1		0	
Source: Deputy director, small farmers development agency, DAH & VS (2013-14)					

3.2 Description of Department of Animal Husbandry and Veterinary Services and Karnataka Cooperative Milk Producers Federation Limited

In Karnataka dairy development is mainly done by two organisations as mentioned below:

3.2.1 Department of Animal Husbandry and Veterinary Services (DAH&VS)

The Department of Animal Husbandry and Veterinary Services is playing a vital role in the growth of rural economy through improved Animal Husbandry activities. The Department of Animal Husbandry and Veterinary Services got bifurcated from the Department of Agriculture, as early as in the year 1945 and has made a phenomenal progress in its developmental programme, which has helped it to attain the position of major technical department in the administrative set up of GoK. This system marked a major change in the structure and functioning of extension setup in the state, i.e., it laid emphasis on the professionalization of extension system. Under the new system, primary level workers were brought directly under the fold of DAH&VS under a system of hierarchy. The department is now in a position to provide the farmers with latest technology in respect of dairying, livestock breeding and poultry development for achieving the ultimate target of augmenting the production of livestock products such as milk, meat, eggs and wool.

Activities of DAH & VS

- Providing health care for domestic animals and poultry population of the state and to protect them from contagious and non-contagious diseases.
- Improvement of the productivity of livestock and poultry through scientific breeding, feeding and management.
- Providing extension services and practical training facilities to the farmers in advanced animal husbandry practices.
- Providing assistance to Livestock and Poultry Co-operative Societies for the benefit of both producers and consumers.
- Formulating schemes to supplement the income of small and marginal farmers and agricultural labours and to help them in securing financial assistance from the Financial Institutions.

- Implementing Socio-Economic Programmes such as Special Livestock Breeding Programme, Special Component Plan and Tribal Sub-Plan schemes of the Government.
- Conducting the Livestock Census once in five years, besides conducting the Integrated Sample Survey every year for estimating the production of major livestock products viz., milk, meat, egg and wool and their by-products.

Schemes implemented by DAH&VS

1. Indigenous cattle development programme
2. Cross breeding programme
3. National project for cattle and buffalo breeding (NPCBB)
4. Livestock insurance scheme
5. Special component programme
6. Tribal sub-plan

3.2.2 Karnataka Cooperative Milk Producers Federation Limited (KMF)

KMF is the Apex Body in Karnataka representing Dairy Farmers' Co-operatives. It is the second largest dairy co-operative amongst the dairy cooperatives in the country after AMUL. It is the largest Dairy Cooperative Federation in South India, owned and managed by milk producers of Karnataka State in terms of procurement as well as sales. It is the first dairy cooperative to launch ksheera bhagya scheme, to provide free milk to one crore school children of rural Karnataka.

KMF came into existence in 1984 and dairy development activities were extended to cover the entire state under Operation Flood- II (OF-II). The dairy co-operatives were established under the ANAND pattern in a three tier structure with the Village Level Dairy Co-operatives forming the base level, the District Level Milk Unions at the middle level to take care of the procurement, processing and marketing of milk and the KMF as the apex body to co-ordinate the growth of the sector at the state level. Coordination of activities among the Unions and developing market for milk and milk products is the responsibility of KMF. Marketing milk in the respective jurisdiction is organised by the respective milk Unions. Surplus/deficit of liquid milk among the member milk Unions is monitored by the federation. While the marketing of all the milk

Products is organised by KMF, both within and outside the State, all the milk and milk products are sold under a common brand name “NANDINI”.

Objectives of KMF

KMF is a Cooperative Apex Body in the State of Karnataka representing organisations of milk producers' and implementing all round dairy development activities to achieve the following objectives:

- To ensure assured and remunerative market round the year for the milk produced by the farmer members.
- To make available quality milk and other premier dairy products to urban consumers.
- To build and develop village level institutions as cooperative model units to manage the dairy activities.
- To ensure provision of inputs for milk production, processing facilities and dissemination of know-how.
- To facilitate rural development by providing opportunities for self-employment at village level, preventing migration to urban areas, introducing cash economy and opportunity for a sustained income.

KMF has covered 22.48 lakhs milk producers in over 12930 Dairy Cooperative Societies at village level, functioning under 13 District Cooperative Milk Unions in Karnataka State. It procured an average of 58.47 lakh kg of milk per day. It gives payment of Rs. 12 crore per day to the milk producers. It sold more than 60 milk products to market. The mission of the federation is to usher rural prosperity through dairy development. During the last four decades of Cooperative Dairy Development by KMF, the dairy industry in Karnataka has progressed from a situation of milk-scarcity to that of milk-surplus. The federation has set an ambitious target to reach 65 lakh litres a day by 2015 and 1.07 crore litres a day by 2020.

KMF is meant for implementing of various schemes of GoK and GoI

GoK Schemes: Ksheera Bhagya, Amruth Yojana, Milk Incentives to Milk Producers

GoI Schemes: Clean Milk production, Fodder development Scheme, Intensive Dairy Development Project (IDDP), Rashtriya Krishi Vikas Yojana (RKVY), Dairy Entrepreneurship Development Scheme etc.

3.3 Research design

The research design followed to conduct the study was ex-post facto design, since the phenomenon had already occurred.

According to Kerlinger (1964) ex-post facto research is a systematic empirical inquiry in which the researcher does not have direct control over independent variables because their manifestation have already been occurred or because they are inherently not manipulable.

The main objective of the study was to find out the role performance of field extension functionaries of DAH & VS and KMF of Rural and Urban districts of Bengaluru which are influenced by several socio- personal, socio psychological, organisational and communicational attributes/factors.

3.4 Sampling plan

Selection of respondents

The field extension functionaries from DAH & VS and KMF were selected purposively for the present study. The extension personnel/officials, who are actually involved in field extension work and transfer of technologies, were randomly selected. The respondents included Veterinary Officers and Assistant Directors from DAH & VS and Extension Officers, Deputy Managers, Assistant Managers from KMF, which comprises a total of 120 respondents for the present study.

Table 3.2 Distribution of respondents

Sl. No.	Name of organisation	Rural District	Urban District
1	DAH & VS	30	30
2	KMF	30	30
	Total	60	60
	Total no. respondents (n) = 120		

3.5 Selection of variables

3.5.1 Dependent variables

Role performance of field extension functionaries was considered as dependent variables based on the objectives of the study.

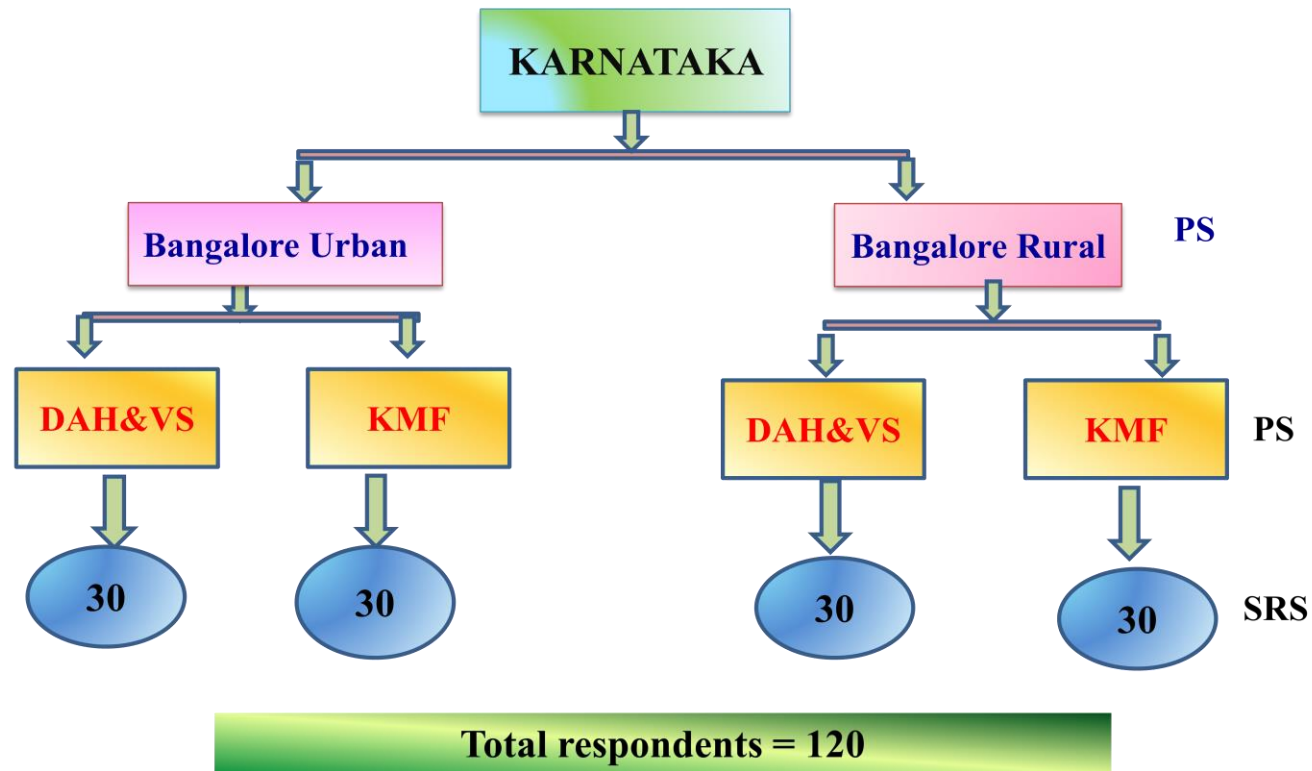
3.5.2 Independent variables

Sixteen independent variables were selected for the study based on exhaustive review of literature and discussion with experts, which include age, gender, marital status, education, rural/urban background, family occupation, work experience, training received, social participation, attitude towards work, job involvement, achievement motivation, job stress, job satisfaction, organisation climate and information seeking behaviour.

3.6 Operationalisation and measurement of variables

A.	Dependent variable	
	Role performance	Structured schedule was developed
B.	Independent variables	
1	Age (in years)	Direct Questioning
2	Gender	Direct Questioning
3	Marital status	Direct Questioning
4	Educational qualification	Direct Questioning
5	Rural/urban background	Direct Questioning
6	Family occupation	Direct Questioning
7	Work Experience	Direct Questioning
8	Training received	Direct Questioning
9	Social participation	Direct Questioning
10	Attitude towards work	Scale developed by Hafeez and Subbaraya (1974) with slight modification
11	Job involvement	Scale developed by Lodhal and Kejner (1965) with slight modification
12	Achievement motivation	Scale developed by Prasad (1983)
13	Job stress	Scale developed by Matteson and Ivancevich (1982) with slight modification

SAMPLING PLAN



PS- Purposive Sampling,

SRS- Simple Random Sampling, FEFs- Field Extension Functionaries

Figure 3.4: Sampling plan for research

14	Job satisfaction	Scale developed by Kherde (1971) with slight modification
15	Organisational climate	Scale developed Pareek and Chattopadya (1979) with slight modification
16	Information seeking behaviour	Scale developed by Devi (2004) with slight modification
17	Constraints	Structured schedule was developed

3.6.1 Dependent variables

3.6.1.1 Role performance

In the present study the role performance was operationalised as the degree to which the different job duties (activities) were performed by the respondents as the occupants of the post/ the role performance refers to the manner and extent in which different task expected from field extension functionaries were performed actually in the practical situation.

For measuring the role performance of Field Extension Functionaries, a scale was developed by the researcher based on the experience gained during the pilot study and detailed investigation of literature. The scale consisted of three major areas related to their job items

1. Veterinary services
2. Extension services
3. Other activities / miscellaneous.

The scale consisted of 34 role activities on a four-point continuum namely ‘regularly’, ‘occasionally’, ‘rarely’ and ‘never ‘ with a score 4, 3, 2 and 1, respectively.

Regularly: It is operationalised as the role activities which are performed by FEFs on every day and on routine basis like weekly, fortnightly, and monthly etc.

Occasionally: It is operationalised as the role activities which are performed by FEFs not on regular basis and not so frequently.

Rarely: Those activities which are performed by FEFs not often or seldom done.

Never: Those activities which are not at all performed by FEFs.

In the present study role performance was measured by considering the self-rating technique. The maximum and minimum scores that could be obtained by FEFs were 136 and 34 respectively. The performance score on all the role activities was summed up to get the role performance score of a Field Extension Functionaries. Then the respondents were categorised into three categories based on the maximum possible score for each category.

Category	Score
Low	Below (Mean – SD)
Medium	(Mean ±SD)
High	Above (Mean + SD)

And prioritization of role activities was done on the basis of their weighted mean score as follows

Step 1

weighted mean score of each job item = $\frac{\text{Total obtained score of all respondents in each role}}{\text{Total maximum possible scores for each role}}$

Step 2

Prioritization = Descending order of mean score of all the job items. So we get the important activities which were regularly performed by respondents.

3.6.2 Independent variables

3.6.2.1 Age

Age refers to the chronological age of the respondents in completed years at the time of investigation. A score of one was assigned for each completed year. Further, the respondents were classified into three groups based on the procedure followed by Chandargi (1996), which is given below

Category Age (in Years)	Score
Young (up to 35 years)	1
Middle (36 to 50 years)	2
Old (Above 50 years)	3

3.6.2.2 Gender

Gender refers to the societal meaning assigned to respondent as male or female. The respondents will be classified into male or female. The score were assigned as:

Category	Score
Male	1
Female	2

3.6.2.3 Marital status

Marital status refers to the respondent's status whether they were married or unmarried. The Score were assigned as:

Category	Score
Married	1
Unmarried	2

3.6.2.4 Education

Education refers to the number of years of formal education completed by the respondent. Further the FEFs were classified into four categories based on their level of education. The Score were assigned as:

Category	Score
UG/ PG Graduates	1
Professional UG (B.V.Sc. & AH)	2
Professional PG (M.V.Sc.)	3
Doctorate	4

3.6.2.5 Rural / urban background

Rural or urban background refers to the respondent's place of birth and the area of his early childhood. The Score were assigned as:

Category	Score
Urban	1
Rural	2

3.6.2.6 Family occupation

Family occupation refers to the main source of livelihood of one's father/ the family over generations. This was categorized as farming the main occupation being the agriculture and non farming the main occupation being other than agriculture. The score were assigned as:

Category	Score
Non farming	1
Farming	2

3.6.2.7 Work experience

The work experience was operationalised as the total number of years of service completed in the DAH & VS or KMF. A score of one was assigned for each year completed. Further, the FEFs were classified into three groups based on mean and standard deviation.

Category	Score
Low	Below (Mean – SD)
Medium	(Mean $\pm$ SD)
High	Above (Mean + SD)

3.6.2.8 Training received

Training was operationalised as the number of professional training programmes attended by the respondent during their total service period.

Category	Score
No training	0
Low (less than 2 numbers)	1
Medium (2 to 4 numbers)	2
High (more than 4 numbers)	3

3.6.2.9 Social participation

This was operationalised as the respondent's participation in professional societies as a member or office bearer. The scoring procedure is given below;

Sl. no.	Category	Score
1	No participation	0
2	Membership in 1-3 organisation	1
3	Membership in more than 3 organisation	2
4	Office bearer in any organisation	3

3.6.2.10 Attitude towards work

This was operationally defined as the degree of affect that individuals associate with one's work. This was measured by the workers attitude scale developed by Hafeez and Subbaraya (1977) with slight modification. The scale consisted of seven statements, the responses for which were obtained on a five-point continuum. The response alternatives used in the scale were 'strongly agree', 'agree', 'undecided', 'disagree', and 'strongly disagree' with weightage of 5, 4, 3, 2, and 1, respectively for positive statements and 1, 2, 3, 4 and 5 for negative statements. The maximum obtainable score was 35. Further, the respondents were classified into three categories based on mean and standard deviation as follows:

Category	Score
Less favourable	Below (Mean – SD)
Favourable	(Mean $\pm$ SD)
More favourable	Above (Mean + SD)

3.6.2.11 Job involvement

Job involvement is an important variable that affects the role performance of FEFs. It refers to "the degree to which a person is identified psychologically with his work or the importance of work in his total self-image" (Lodahl and Kejner, 1965).

The variable was measured using the scale developed by Lodahl and Kejner (1965) with some modification. The scale consisted of six statements, each statement was

quantified on a five-point continuum namely 'strongly agree', 'agree', 'undecided', 'disagree', and 'strongly disagree' with 5, 4, 3, 2 and 1 score, respectively for positive statements and the scoring was reversed for negative statements. The sum of the scores for all the listed items forms the total score of a respondent. The maximum and minimum scores, an individual could attain was 30 and 6 respectively. The higher score indicate more job involvement of the respondent. The field extension functionaries were categorised into three categories based on the mean and standard deviation.

Category	Score
low	Below (Mean – SD)
Medium	(Mean $\pm$ SD)
High	Above (Mean + SD)

3.6.2.12 Achievement motivation

Achievement motivation can be defined as the desire to excel in one's endeavour regardless of social rewards. Achievement was operationalised as the value associated with an individual which drives him/her to excel in his/her activities to attain a sense of personal accomplishment.

This variable was measured by adopting a scale developed by Prasad (1983). The scale consists of 6 statements and the possible scores ranged from 6 to 30 and the respondents were asked to indicate their degree of agreement or disagreement on five-point continuum namely 'strongly agree', 'agree', 'undecided', 'disagree', and 'strongly disagree' with weightage of 5,4,3,2, and 1, respectively. The scores against all the statements were added to arrive at the total score of the individual. The higher score reveals the higher achievement motivation of the respondents. Further, the respondents were classified into three categories based on mean and standard deviation as follows:

Category	Score
Low	Below (Mean – SD)
Medium	(Mean $\pm$ SD)
High	Above (Mean + SD)

3.6.2.13 Job stress

Kahn and Quinn (1976) defined role stress as anything about his organisational role that produces adverse consequences for the individual. It was operationalised as the degree to which an individual feels psychological and physical pressure due to his/ her job. The job stress was measured by using the scale developed by Matteson and Ivancevich (1982) and used by Chandargi (1996) with some modification.

The scale consisted of seven statements. The respondents were asked to indicate their degree of stress on a four-point continuum namely, 'always a source of stress', 'sometime a source of stress', 'rarely source of stress' and 'not a source of stress' with score of 4,3,2 and 1 respectively. Job stress score of the respondent was calculated by adding the scores of all 7 statements given by the individual. The maximum and minimum scores that could be obtainable by a respondent were 28 and 7 respectively. The higher categories of scores indicate higher level of job stress of the respondent. Further, the respondents were classified into three categories based on mean and standard

Category	Score
Low	Below (Mean – SD)
Medium	(Mean $\pm$ SD)
High	Above (Mean + SD)

3.6.2.14 Job satisfaction

In the present study job satisfaction of the respondents was operationalised as the degree to which the FEFs were satisfied or dissatisfied with different aspects of their job.

This variable was measured by using the scale developed by Kherde (1971) and followed by Halakatti (1991) and Chandargi (1996) with some modification. The scale consisted of ten statements. The scale was presented to the respondents on a four-point continuum namely, 'most satisfied', 'satisfied', 'less satisfied' and 'not satisfied', with weight age of 4,3,2 and 1 respectively for all the statements. The scores against all the statements were added to get individual respondents scores. The maximum and minimum scores for each respondent were 40 and 10, respectively and the higher value of score

indicates more level of job satisfaction of the respondent. Further, the respondents were classified into three categories based on mean and standard deviation as follows

Category	Score
low	Below (Mean – SD)
Medium	(Mean $\pm$ SD)
High	Above (Mean + SD)

3.6.2.15 Organisational climate

Litwin and Stringer (1968) defined organisational climate as the perceived, subjective effect of the formal system, the informal style and other environmental factors on the attitude, beliefs, values and motivation of people who work in a particular organisation. It refers to the perception of an employee about his work place, facilities, co-workers etc. This variable was measured by adopting the scale developed by Pareek and Chatopadya (1979) and used by Rajeev (1988) with a slight modification. The scale consisted of 10 items which were assessed on five-point continuum with a weight age of 5,4,3,2 and 1 respectively for ‘strongly agree’, ‘agree’, ‘undecided’, ‘disagree’, and ‘strongly disagree’ for positive statements and the scores will be 1,2,3,4 and 5 for negative statements respectively. The sum of the scores for all items forms the total score of a respondent. The maximum and minimum scores, an individual could attain was 30 and 6 respectively. The higher score revealed greater organisational climate of the respondent. The field extension functionaries were categorised into three categories based on the mean and standard deviation.

Category	Score
Less favourable	Below (Mean – SD)
Favourable	(Mean $\pm$ SD)
Most favourable	Above (Mean + SD)

3.6.2.16 Information seeking behaviour

It refers to the expressed opinion of the respondents on the frequency of use of different categories information sources from which they gather the needed technical

information related to their work. The schedule developed by Devi (2004) was used for the purpose. A composite score was obtained for each respondent for measuring this variable. The procedure is described as follows. All the sources consulted by the respondents were given equal score of one against each of the sources. The respondents were asked to respond on a three point continuum for frequency of use and perceived usefulness. Scores were given as; Regularly - 3, Frequently - 2, Rarely -1

Finally the total score for frequency of use of information sources were obtained by summing these scores for all the sources. The field Extension functionaries were categorised into three categories based on the mean and standard deviation.

Category	Score
low	Below (Mean – SD)
Medium	(Mean $\pm$ SD)
High	Above (Mean + SD)

Based on weighted mean score important source used by the field extension functionaries with regard to the technical know-how is decided.

3.6.3 Constraints

A constraint is something that limits or controls one's activity. It refers to the problems or obstacles faced by the FEFs in carrying out their day to day duties or activities pertaining to successful dairy development. A list of constraints was prepared through review of recent literature, job chart of FEFs and discussion with FEFs and scientists. These items were later categorised under major heading of technological, physical, organisational, economic, communicational and personal constraints etc.

The scale was presented to the respondents on a four-point continuum namely, very important, important, less important, and not important with weight age of 4,3,2 and 1 for all the items. The scores against the individual item were added to get individual item score, then most important constraint will identified by comparing their weighted mean score and ranking was also given based on their weighted mean score.

$$\text{Weighted mean score of each job item} = \frac{\text{Total obtained score of all respondents in each role}}{\text{Total maximum possible scores for each role}}$$

3.7 Technique used in data collection

For the purpose of data collection a questionnaire was developed with the consent of experts of study and covering all the objectives and pre-tested among the respondent from non-sample area. The questionnaire consisting of the role performance rating scale for measuring the performance of field extension functionaries was personally distributed to the respondents during the monthly or fortnight review meetings at the district headquarters and also by personally visiting their work place (veterinary hospitals). The researcher explained the respondents the purpose of the investigation and requested them to provide their genuine responses. The filled questionnaires were either mailed back or posted back to the researcher or collected by the researcher personally in the subsequent monthly meetings. The primary data was collected from the respondent and the secondary data were collected from the authentic sources viz. published annual reports, statistical handbook and economic survey reports and govt. official websites.

3.8 Statistical tools used in the study

The collected data were scored, compiled, tabulated and analyzed by using various appropriate statistical tools and techniques such as:

- i) Mean
 - ii) Standard deviation
 - iii) Frequencies
 - iv) Percentages
 - v) Karl Pearson's simple correlation coefficients
 - vi) Chi square test
 - vii) Multiple linear regression analysis
- The mean and standard deviation were used to classify the data of results into three categories for needed categorization as follows:
- Low group = $< (\text{Mean} - \text{SD})$
- Medium group = $(\text{Mean} \pm \text{SD})$
- High group = $> (\text{Mean} + \text{SD})$
- To make simple comparison percentage analysis was used

- Pearson's simple correlation coefficients was used for predicting the relationship of continuous variables, viz. age, education, experience, training received, social participation, and also for scale value such as job satisfaction, job stress, attitude towards work, organisational climate and information seeking behaviour. It is a simple numerical figure, which explains the degree of the relationship as well as direction of the relationship. The simple correlation coefficients (r) value lies in between minus one to plus one. If the value is zero means, there is no relationship between two variables whereas the value close to plus one indicates that variable is highly and positively associated and vice-versa.
- Chi square test is used to compute the association between categorical variables viz. gender, marital status, rural/urban background and family occupation which are not continuous and expressed in nominal scale with the role performance of FEFs.
- Multiple linear regression analysis used to identify the contributing variables which contribute significantly towards the variation in role performance of the respondents. For this which independent variables comes significant under correlation analysis and chi square test subjected to multiple linear regression analysis. R^2 also called multiple correlation or the coefficient of determination, is the percent of the variance in the dependent explained uniquely or jointly by the independents. R-squared can also be interpreted as the proportionate reduction in error in estimating the dependent when knowing the independents. The F test is used to test the significance of R^2 , which is the same as testing the significance of the regression model as a whole.

3.9 Conceptual model for the study

Role performance of FEFs is the functions of number of independent variables. It was assumed that these independent variables may be influencing in a varying manner and degree on the role performance of FEFs. The conceptual relationship was diagrammatically in represented (Figure 3.1) as presented below:

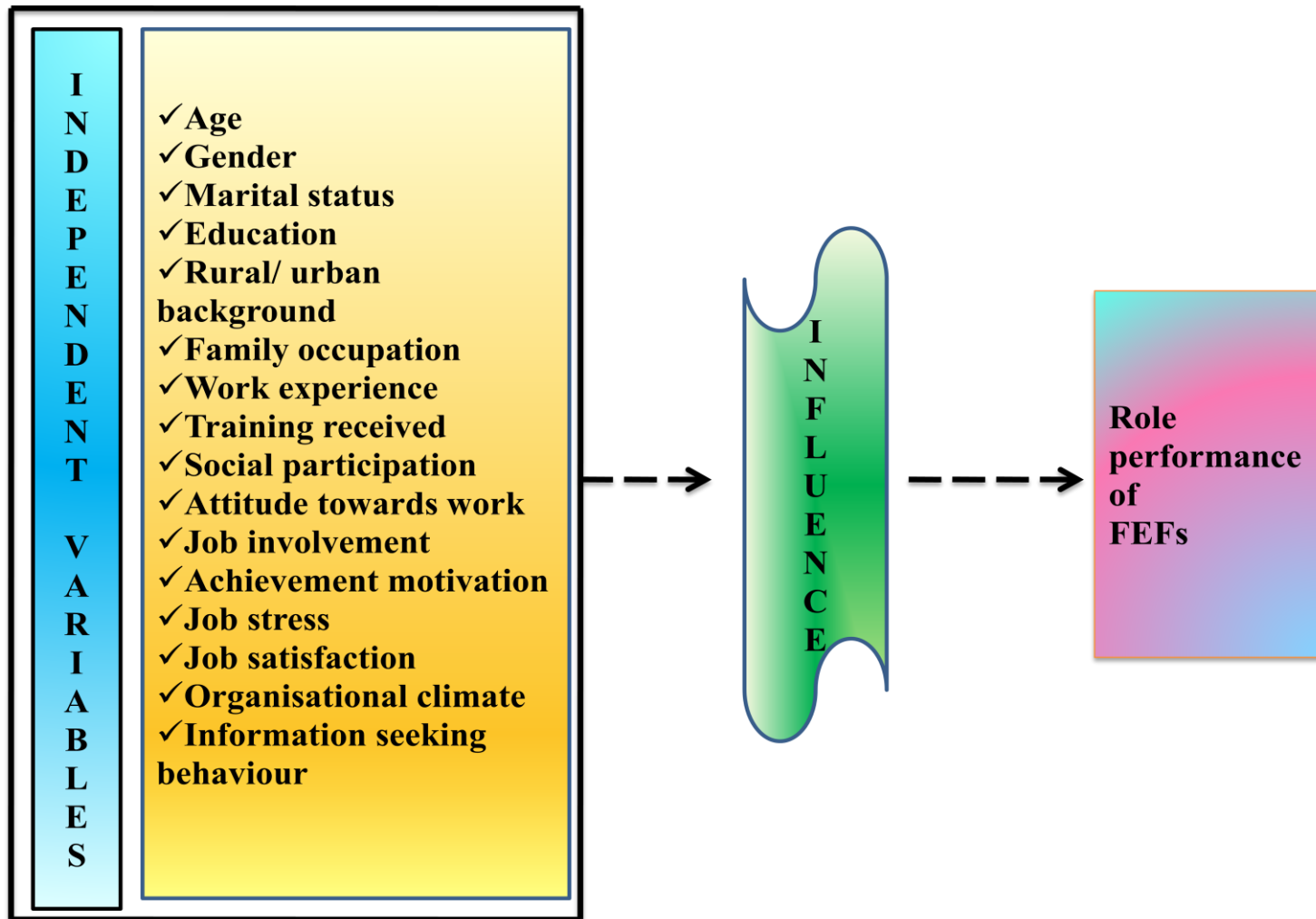


Figure 3.5: Conceptual model showing the relationship between independent variables and dependent variable

CHAPTER – 4

Results and Discussion

4. RESULTS AND DISCUSSION

The information pertinent to this study was collected from the selected sample of field extension functionaries of Department of Animal Husbandry & Veterinary Services and Karnataka Milk Federation of Karnataka state. The collected data were classified, tabulated and analyzed in light of the objectives of the study. The facts and findings derived after analyzing the information have been presented under the following heads and discussed in succeeding pages:

- 4.1 Socio-personal, socio- psychological, organisational and communicational profile of the respondents
- 4.2 Role performance of field extension functionaries in transfer of technology
- 4.3 Relationship of the socio-personal, socio-psychological, organisational and communicational characteristics of the respondents with their role performance
- 4.4 Constraints faced by the respondents in transfer of technologies to the farmers
- 4.5 Strategies for enhancing role performance in effective transfer of technology
- 4.6 Empirical model for the study

4.1 Socio-personal, socio-psychological, organisational and communicational profile of the respondents

The field extension functionaries (FEFs) have an important role to play in dairy development through effective technology transfer. It is important to have clear understanding of their profile as the role performance is influenced by such different characteristics of the FEFs. It was beyond the scope of the present study to include all the characteristics of field extension personnel however, some important attributes were selected and the findings have been presented in succeeding pages. The characteristics have been classified under four heads related to socio-personal, psychological, organisational and communicational related variables which includes age, gender, marital status, educational qualification, rural / urban background, family occupation, experience, training received, social participation, attitude towards work, job

involvement, achievement motivation, job stress, job satisfaction, organisational climate and information seeking behavior.

4.1.1 SOCIO-PERSONAL PROFILE OF FEFs

4.1.1.1 Designation

Table 4.1 Distribution of FEFs according to their designation

Sl. No.	Categories	Frequency	Percentage
1	Veterinary Officer	47	39.17
2	Assistant Director	13	10.83
3	Extension Officer	24	20.00
4	Assistant Manager	13	10.83
5	Deputy Manager	23	19.17
	Total	120	100.00

From the Table 4.1 and Figure 4.1 it could be observed that a considerable percentage (39.17%) of FEFs were veterinary officers, followed by 20.00, 19.17 per cent were extension officers, deputy manager respectively, and equal percentage (10.83%) of respondents were assistant manager and assistant director respectively.

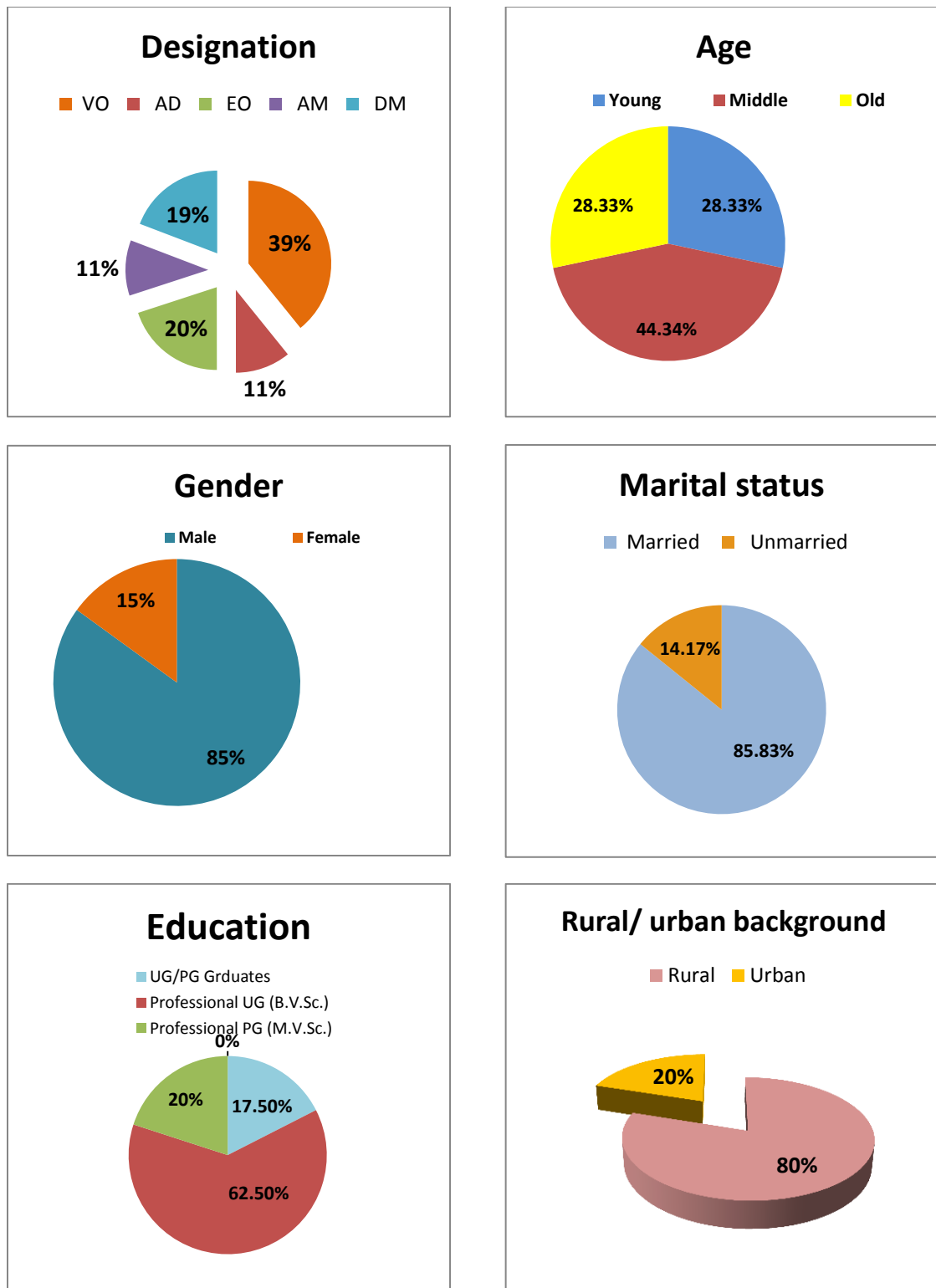
4.1.1.2 Age

Table 4.2 Distribution of the FEFs according to their age

Sl. No.	Age group	Frequency	Per cent
1.	Young (up to 35 years)	34	28.33
2.	Middle aged (In between 36-50 years)	52	43.34
3.	Old (> 50 years)	34	28.33
	Total	120	100.00

The overall distribution of respondents revealed from Table 4.2 and Figure 4.1 that a significant percentage (43.34%) belonged to middle aged category and an equal 28.33 per cent were in the old age category as well as in young age category, with a mean age of 42.63 years. It might be due to the department has not recruited jobs recently or due to limited recruitment has taken place in recent year and also few retirement of the older staff.

Figure 4.1: Socio-personal profile of Field extension functionalities



The above result is in accordance with the Mohan (2000) where he found most of the AAOs (51.21%) were of middle age group category, and also in line with Aimble (2011) where majority of Teachers of U.A.S. Bangalore were in middle aged category.

4.1.1.3 Gender

Table 4.3 Distribution of FEFs according to gender

Sl. No.	Category	Frequency	Per cent
1.	Male	102	85.00
2.	Female	18	15.00
	Total	120	100.00

As indicated in Table 4.3 and Figure 4.1 that majority (85.00%) of the respondent were male and rest (15.00%) of respondents were female. The probable reason might be due to the nature of work, which is more preferred by male. It can be also conclude in this way that at the time of recruitment department had not found eligible female candidates.

This result is in agreement with the findings reported by Aimble (2011) and Goyal (2015) where large percentage of respondents, 82.00 per cent and 89.00 per cent were male respectively.

4.1.1.4 Marital status

Table 4.4 Distribution of the FEFs according to their marital status

Sl. No.	Category	Frequency	Per cent
1.	Married	103	85.83
2.	Unmarried	17	14.17
	Total	120	100.00

It can be seen from Table 4.4 and Figure 4.1 that majority of respondents (85.33%) were married and remaining 14.17 per cent were found unmarried. This finding was in accordance with the finding of Maity (2007), who found that majority (88.00%) of Pranibandhu in West Bengal were married.

4.1.1.5 Educational qualification

Table 4.5 Distribution of FEFs according to their educational qualification

Sl. No.	Category	Frequency	Per cent
1	UG / PG Graduates	21	17.50
2	Professional UG (B.V.Sc. & AH)	75	62.50
3	Professional PG (M.V.Sc.)	24	20.00
4	Ph.D.	00	00
	Total	120	100.00

The data from Table 4.5 and Figure 4.1 revealed that most of the respondents (62.50%) possessed Professional degree (B.V.Sc. & AH), whereas 20.00 per cent possessed professional PG (M.V.Sc.) and rest (17.50%) possessed basic UG/ PG degree (B.A., B.Com., B.Sc., M.Sc.). None of the respondents found to possess doctorate degree. The probable reason for majority of the respondents possessing B.V.Sc. & AH degree could be due to the fact that the basic educational requirement for the post they hold was basic graduation in veterinary sciences in case of DAH&VS and in KMF along with B.V.Sc. & AH basic graduation (B.A., B.Com, B.Sc. etc.) is required. Hence, majority of the respondents possessing B.V.Sc. & AH degree.

This finding is in line with the findings of Ratnayake (2012) and Goyal (2015), who reported that majority of respondents were having B.V.Sc. & AH degree, and also in accordance with the finding of Goyal (2015) who found that none of the respondents found to have doctoral degree.

4.1.1.6 Rural / urban background

Table 4.6 Distribution of FEFs according rural / urban background

Sl. No.	Category	Frequency	Per cent
1	Rural	96	80.00
2	Urban	24	20.00
	Total	120	100.00

The data with regard to the rural urban background of the extension functionaries are presented in Table 4.4 and Figure 4.1, it was found that majority (80.00%) of the

respondents were found to have rural background and remaining 20 per cent were found to have urban background. Thus, it can be inferred that overwhelming majority of the extension functionaries belonged to rural background so it is quite natural to have affection towards dairying or agricultural activity and this might be the possible cause to join for B.V.Sc. & AH courses to render service for the benefit of the farmers. This finding is supported by Mandavi (2002) Devi (2004) and Patel (2006), who found that majority of respondents were from rural background.

4.1.1.7 Family occupation

Table 4.7 Distribution of FEFs according to their family occupation

Sl. No.	Family occupation	Frequency	Per cent
1	Farming	87	72.50
2	Non farming	33	27.50
	Total	120	100.00

Data presented in Table 4.7 and Figure 4.2 revealed that major share of the respondents (72.50%) were found to have farming as their family occupation and remaining 27.50 per cent were found to have non farming as their family occupation. It is also inferred that as they having their farming as a family occupation they are more interested in farming activities, and this is might be one of the reason they have choose carrier in Dairying or AH to serve the farmers. This finding is accordance with Mandavi (2002) and Patel (2006) majority of respondents having farming as their family occupation.

4.1.1.8 Work experience

Table 4.8 Distribution of FEFs according to their work experience

Sr. No.	Category	Frequency	Per cent
1	Low (< 5.96)	27	22.50
2	Medium (5.96 to 26.21 years)	71	59.17
3	High (> 26.21 years)	22	18.33
	Total	120	100.00

(Mean = 16.08)

(S.D= 10.13)

The results in Table 4.8 and Figure 4.2 depicted that most of the respondents (59.17%) were in medium category of experience, while 22.50 per cent and 18.30 per

cent of respondents were in low and high category of work experience respectively. The experience of FEFs ranged from 0 years to 34 years with a mean of 16 years.

The result is accordance with Mishra (2005), who found that majority of Extension Officers (57.38%) belonged to the medium category of total experience.

4.1.1.9 Training received

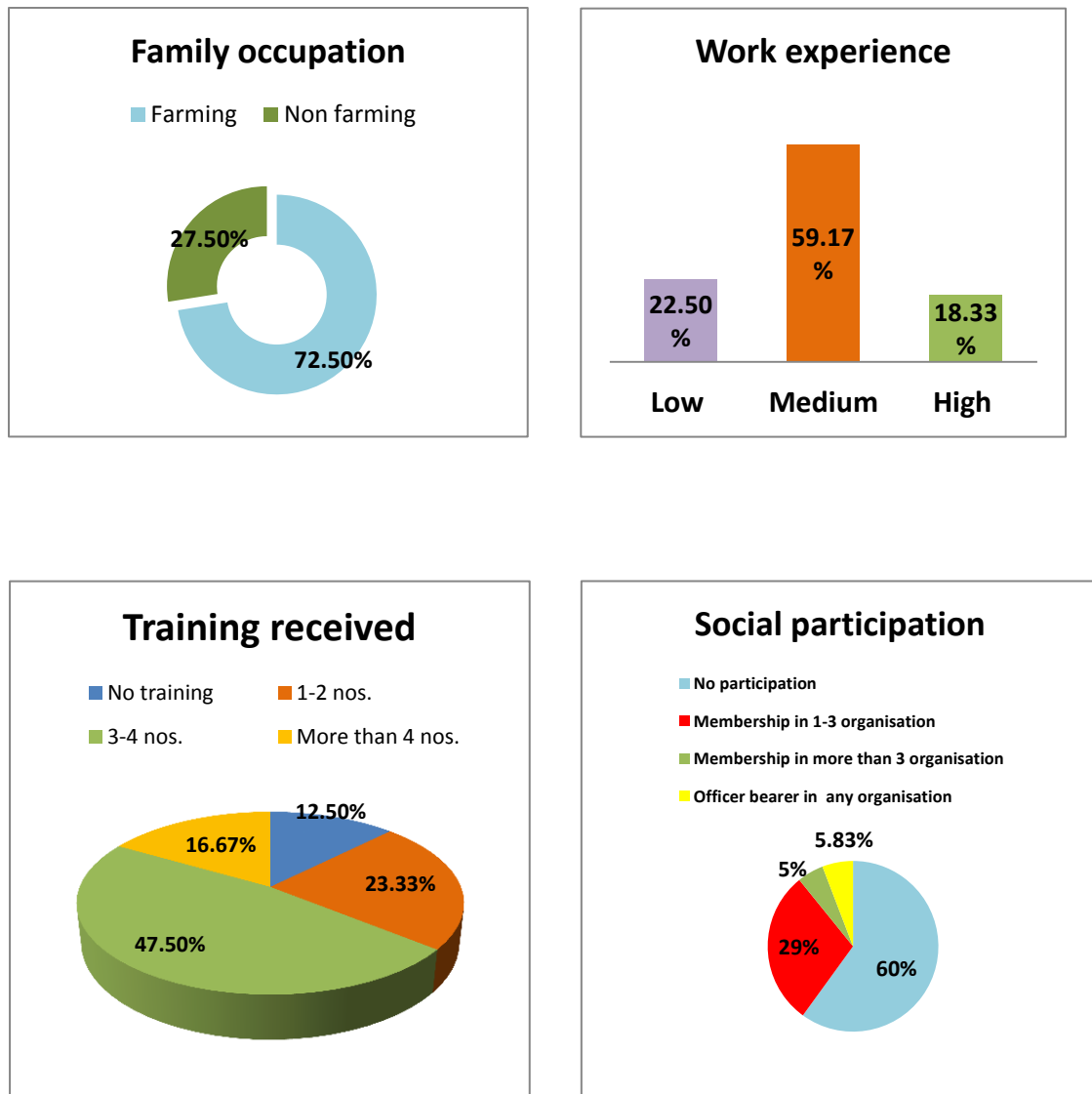
Table 4.9 Distribution of FEFs according to training received

Sl. No.	Category	Frequency	Per cent
1	No training	15	12.50
2	1 to 2 numbers	28	23.33
3	3 to 4 numbers	57	47.50
4	More than 4 numbers	20	16.67
	Total	120	100.00

The result shown in Table 4.9 and Figure 4.2 revealed that nearly half of the respondents (47.50%) had received 3 to 4 numbers of training followed by 23.33 per cent of the respondents had received 1 to 2 numbers of training and 16.67 per cent of respondents had exposed to more than 4 numbers of trainings in their whole service period, it was also observed that 12.50 per cent of respondents are not exposed to any training.

This might be due to budget constraints so FEFs could not able to attend more numbers of training. It could be interpreted in a way that because of technological advancement frequent trainings are needed. In order to enhance the efficiency of human resources and improve the capability of its FEFs. Both department (DAH & VS and KMF) should provide special attention by arranging various training to their FEFs. These finding are accordance with Ratnayake (2012), who found that majority of VASs had received 2 to 4 training in their whole service period.

Figure 4.2: Socio-personal profile of Field extension functionaries



4.1.1.10 Social participation

Table 4.10 Distribution of FEFs according to their social participation

Sl. No.	Category	Frequency	Per cent
1	No participation	72	60.00
2	Membership in 1 to 3 organisation	35	29.17
3	Membership in more than 3 organisation	6	5.00
4	Officer bearer in any organisation	7	5.83
	Total	120	100.00

It is observed from Table 4.10 and Figure 4.2 that 29.17 per cent of respondents had membership in 1 to 3 organisation, while, limited percentage (5.00%) of respondents were having membership in more than 3 organisations and a small percentage of respondents (5.83%) were the office bearer of any organisation. It was also found that more than half of the respondents (60.00%) were not a member of any organisation.

In case of membership, 40.33 per cent of respondents were the member of Karnataka Veterinary Association (KVA) and 10.83 per cent in Pet Practitioners Association of Karnataka (P.P.A.K.).

4.1.2SOCIO- PSYCHOLOGICAL PROFILE OF THE RESPONDENTS

4.1.2.1 Attitude towards work

Table 4.11 Distribution of FEFs according to their attitude towards work

Sl. No.	Category	Frequency	Per cent
1	Less favourable (<26.13)	23	19.17
2	Favourable (26.13 to 32.44)	78	65.00
3	More favourable (> 32.44)	19	15.83
	Total	120	100.00

(Mean = 29.24)

(S.D. = 3.15)

It is evident from Table 4.11 and Figure 4.3 that majority (65.00%) of the respondents were having favorable attitude towards work, whereas 19.17 per cent were having less favorable attitude towards work and the rest (15.83%) of them had more

favorable attitude towards work. This finding is in line of Kiran (2007) who found that majority of scientists, teachers, and extension worker had favorable attitude towards job.

4.1.2.2 Job involvement

Table 4.12 Distribution of FEFs according to their level of job involvement

Sl. No.	Category	Frequency	Per cent
1	Low (<21.43)	21	17.50
2	Medium(21.44 to 26.93)	85	70.83
3	High (> 26.93)	14	11.67
	Total	120	100.00

(Mean = 24.18)

(S.D.= 02.75)

A glance of Table 4.12 and Figure 4.3 indicates that majority (70.83%) of the FEFs belonged to medium category of job involvement, followed by 11.67 per cent and 17.50 per cent fall under high and low category of job involvement respectively. Probable reason for the medium level of job involvement could be due to few opportunities to make decisions, self determination, recognition and freedom to set one's own work. which indirectly affect their job involvement, they avoid taking extra duties, and responsibilities. These results were in conformity with the findings reported by Patel (2006) Ratnayake (2012) and Goyal *et al.* (2015).

4.1.2.3 Achievement motivation

Table 4.13 Distribution of FEFs according to their level of achievement motivation

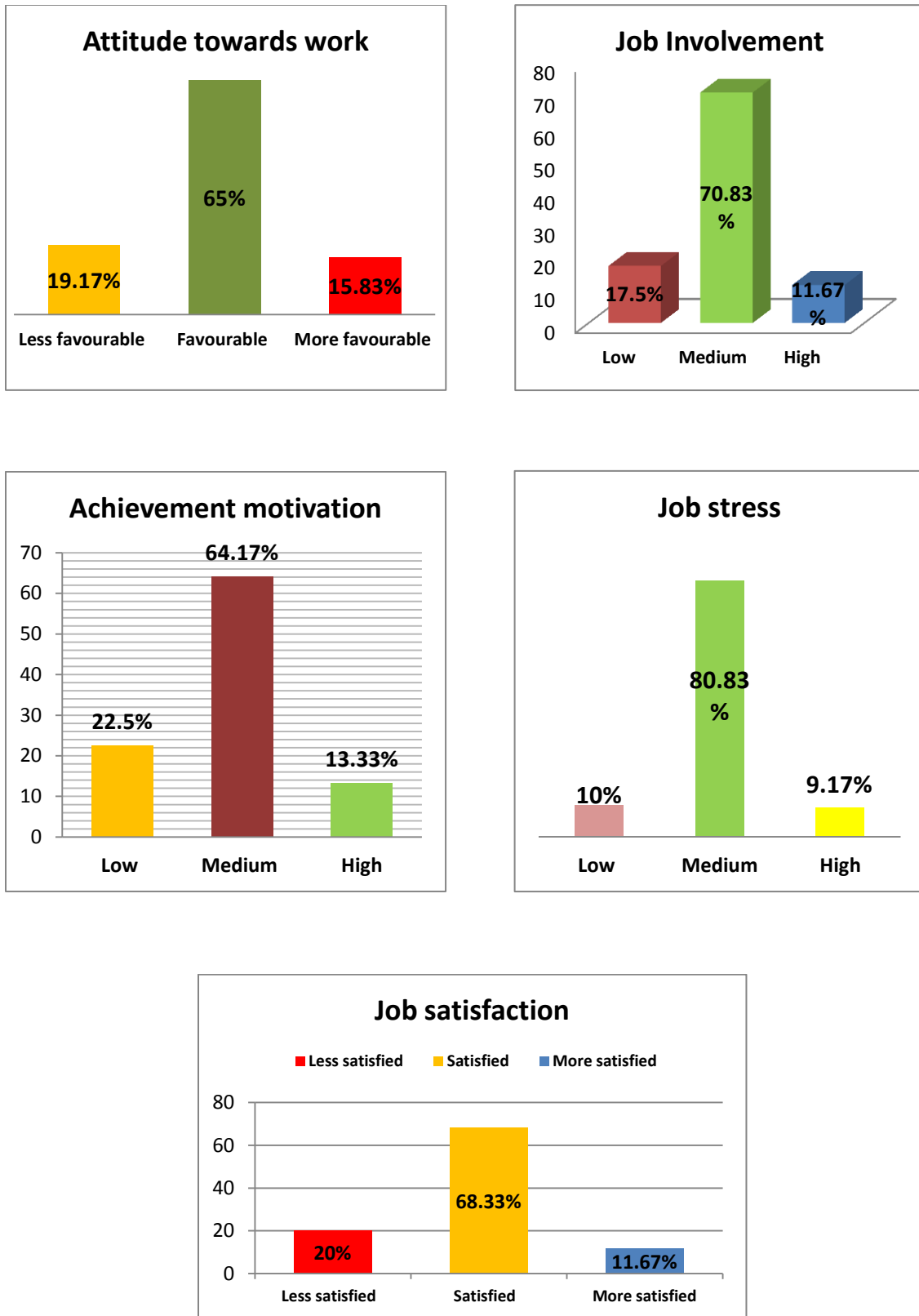
Sl. No.	Category	Frequency	Per cent
1	Low (<22.20)	27	22.50
2	Medium (22.20 to 26.85)	77	64.17
3	High(> 26.85)	16	13.33
	Total	120	100.00

(Mean = 24.53)

(S.D. = 02.32)

The results pertaining to achievement motivation Table 4.13 and Figure 4.3 revealed that nearly two- third of respondents (64.17%) had medium level of achievement motivation, whereas 22.50 and 13.33 per cent of FEFs were in low and high achievement motivation category respectively. The probable reasons may be situational factors and the internal drive of the FEFs to show their competence or might be because of orientation programme conducted by department to problem solving and moderate

Figure 4.3: Socio- psychological profiles of Field extension functionaries



challenges. This finding is in accordance with Manjunath (2004), who reported that majority of extension worker belonged to medium category of achievement motivation.

4.1.2.4 Job Stress

Table 4.14 Distribution of FEFs according to their level of job stress

Sl. No.	Category	Frequency	Per cent
1	Low (< 12.97)	12	10.00
2	Medium(12.97- 18.29)	97	80.83
3	High(>18.29)	11	9.17
	Total	120	100.00

(Mean = 15.63)

(S.D. =02.66)

The results on distribution of respondents according to their level job stress presented in Table 13 and Figure 4.3 depicted that major share (80.83%) of the respondents experienced medium level of job stress, while a limited percentage 10.00 per cent and 9.17 per cent of them experienced low and high level of job stress, respectively.

The possible reasons could be that majority of the posts are vacant in department and each officer have to do more work, other reasons were lack of infrastructural facilities, place of posting which is far from family, centralization in organisation, unhealthy working atmosphere, work load, salary is not sufficient, lack of recognition from job etc. These results were in line with the study conducted by Manjunath (2004), Sandika (2006), Kiran (2007), Ratnayake (2012), Goyal *et al.* (2015) who also reported that majority of the respondents experienced medium level of job stress.

4.1.2.5 Job satisfaction

Table 4.15 Distribution of FEFs according to their level of job satisfaction

Sl. No.	Category	Frequency	Per cent
1	Dissatisfied (<23.12)	24	20.00
2	Moderately Satisfied (23.12 to 31.87)	82	68.33
3	Highly satisfied (>31.87)	14	11.67
	Total	120	100.00

(Mean = 27.53)

(S.D. = 04.34)

The data presented in Table 4.15 and Figure 4.3 indicated that majority of the respondents (68.33%) were having moderate job satisfaction, followed by 11.67 per cent, 20.00 percent were having highly satisfied and dissatisfied category respectively.

Job satisfaction of an individual depends on the socio-economic, socio-personal, environmental factors, strategic employee recognition, job security, freedom of work and good relation with their co-workers. Socio-psychological benefits from his/her job.

The results of the present study are in confirmation with the earlier studies like Sasidhar et al. (2001) Mishra (2005), Nagananda (2005) Patel (2006), Ratnayake (2012) and Goyal (2013), who reported that the majority of respondents belonged to medium level of job satisfaction category.

4.1.3 ORGANISATIONAL VARIABLE

4.1.3.1 Organisational climate

Table 4.16 Distribution of FEFs according to their perception about organisational climate

Sr. No.	Category	Frequency	Per cent
1	Less favourable (< 29.91)	22	18.33
2	Favourable (29.91 to 39.74)	86	71.67
3	Most favourable (> 39.74)	12	10.00
	Total	120	100.00

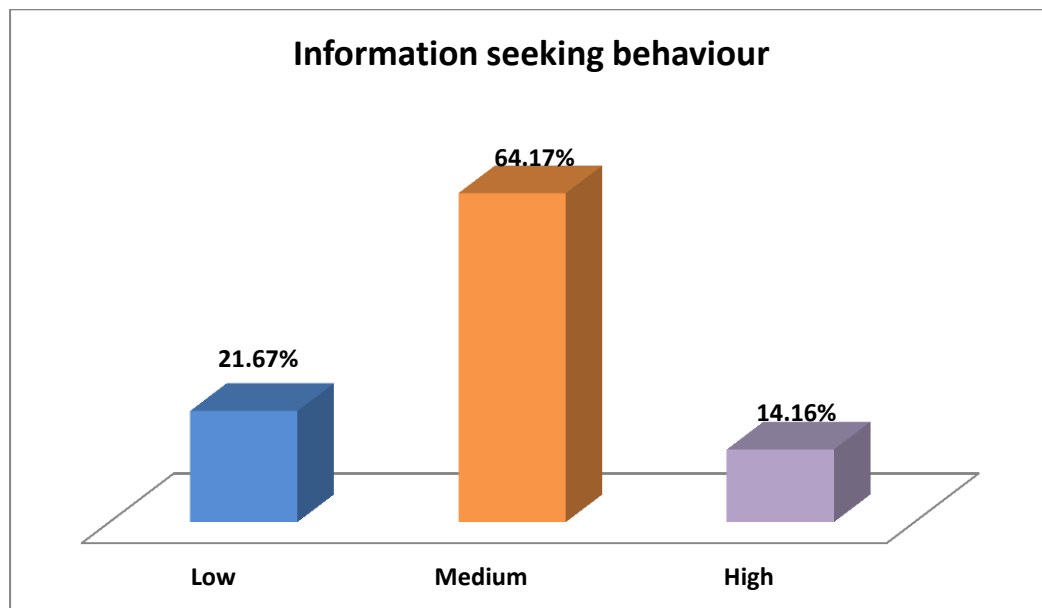
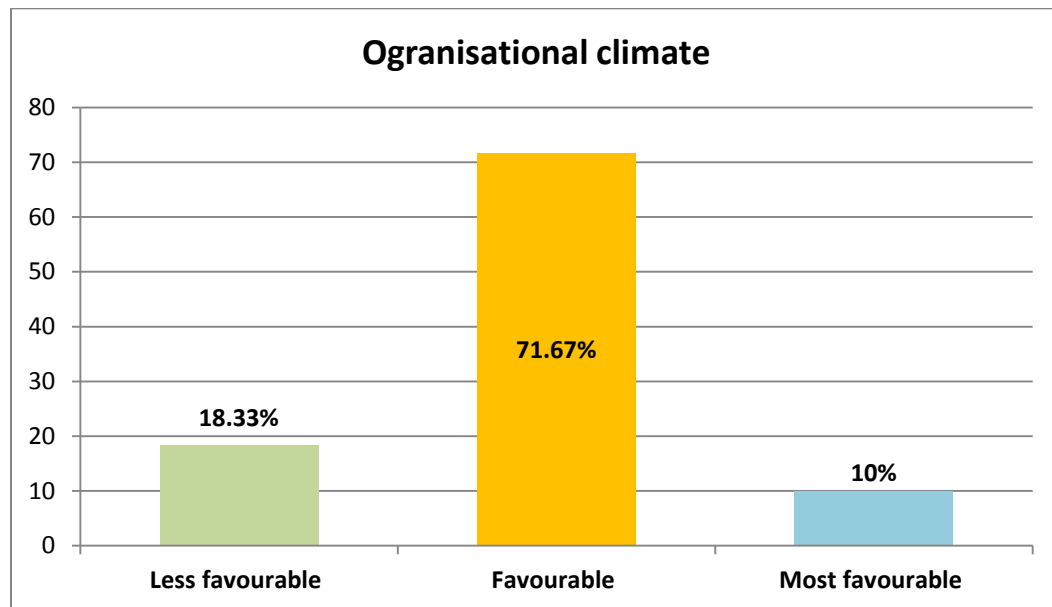
(Mean = 34.83)

(S.D. = 04.91)

The overall perception of organisational climate by respondents presented in Table 4.16 and Figure 4.4 revealed that most of respondents (71.67%) perceived organisational climate as favorable while 18.33 per cent and 10 per cent of them perceived the less favorable and most favorable respectively.

This might be due to that majority was having good relationship with superiors and sub-ordinates, decentralization in department, two way communication take place. The findings were in line of the Sandika (2006) and Kiran (2007) who found that majority of respondents found their organisational climate was favourable.

Figure 4.4: Organisational and communicational profile of Field extension functionaries



4.1.4. COMMUNICATIONAL VARIABLES

4.1.4.1 Information seeking behaviour

Table 4.17 Distribution of FEFs according to their information seeking behaviour

Sl. no.	Categories	Frequency	Percentage
1	Low (< 22.8)	26	21.67
2	Medium (22.8 to 31.2)	77	64.17
3	High (> 31.2)	17	14.16
	Total	120	100.00

A look at Table 4.17 and Figure 4.4 indicated that nearly two-third (64.17%) of the Field extension functionaries had a medium level of information seeking behaviour, while 21.67 and 14.16 per cent of them had low and high information seeking behaviour. The findings were in conformity of Mishra (2005) who also found that majority of respondents were having medium level of information seeking behavior.

Table 4.18 list of different sources used by FEFs for technical knowledge

Particular	Frequency of use			
	Regularly	Frequently	Rarely	Weighted mean score
Formal sources				
Senior officials	38 (31.67)	65 (54.17)	17 (14.17)	43.50
Colleagues	53 (44.17)	61 (50.83)	6 (5.00)	47.83
professional of other organisation	9 (7.50)	36 (30.00)	75 (62.50)	29
Clientele group	13 (10.83)	28 (23.33)	79 (65.83)	29
Informal sources				
Family member	31 (25.83)	28 (23.33)	61 (50.83)	35
Friends	19 (15.83)	49 (40.83)	52 (43.33)	34.5
Relative	11 (9.17)	12 (10.00)	97 (80.83)	25.67
Mass media				
Radio	7 (5.83)	21 (17.50)	92 (76.67)	25.83

Particular	Frequency of use			
	Regularly	Frequently	Rarely	Weighted mean score
Television	22 (18.33)	60 (50.00)	38 (31.67)	37.33
Seminar/ Conference/ workshop	17 14.17	73 60.83	30 25.00	37.83
Internet	30 (25.00)	58 (48.33)	32 (26.67)	39.67
Print media				
Farm magazine	26 (19.17)	61 (50.83)	33 (30.00)	38.33
Research journal	22 (18.33)	63 (52.50)	35 (29.17)	37.83
Newspaper	39 (32.50)	60 (50.00)	21 (17.50)	43
Technical report	11 (9.17)	74 (61.67)	35 (29.17)	36

(Figures in parenthesis indicate percentages)

From above Table 4.18 it could be inferred that among the formal sources, majority of respondents seeks information related to technical work from their colleagues with (weighted mean score 47.83), followed by senior offices (43.50) and equal share from professional of other organisation and clientele group (29.00). Among the informal sources family members (35) followed by friends (34.5), and relative (25.67) were utilized for their technical knowledge. The preference of mass media was in order of Internet (39.67), followed by seminar/ conference (37.83), television (37.33) and radio (25.83). Among the print media newspaper (43.00), farm magazines (38.33), research journal (37.83) and technical reports (36.00) were utilized for them technical knowledge.

4.2 Role Performance of the Field Extension functionaries in transfer of technology

Role performance refers the manner and extent in which different task expected from field extension functionaries were perform actually in the practical situation as an occupant of post. Role performance of FEFs by self rating technique was analyzed in three major fields of work activities the FEFs are involved namely veterinary services, extension services and other activities /miscellaneous activities.

4.2.1 Activity wise role performance of Field Extension Functionaries

Table 4.19 Activities of role performance of FEFs in veterinary services

Sl. no.	Particular	Regularly	Occasionally	Rarely	Never
1	Primary treatment to the animals	116 (96.67)	3 (2.50)	1 (0.83)	0 (0)
2	Providing A.I. services	100 (83.33)	9 (7.50)	4 (3.33)	7 (5.83)
3	Conducting pregnancy diagnosis	96 (80.00)	19 (15.83)	3 (2.50)	2 (1.67)
4	Conducting routine vaccination programmes	96 (80)	14 (11.67)	10 (8.33)	0 (0)
5	Organising health camps	68 (56.67)	24 (20.00)	28 (23.33)	0 (0)
6	Organise mobile veterinary clinics	56 (46.67)	31 (25.83)	25 (20.83)	8 (6.67)
7	Supply of farm or veterinary inputs to the clientele group	63 (52.50)	39 (32.50)	18 (15.00)	0 (0)
8	Identify the quality bull calf produced by A.I.	46 (38.33)	35 (29.17)	32 (26.67)	7 (5.83)
9	To conduct periodical survey regarding the disease occurrence	32 (26.67)	61 (50.83)	26 (21.67)	1 (0.83)
10	Participation in collecting data for animal census	53 (44.17)	34 (28.33)	32 (26.67)	1 (0.83)

(Figures in parenthesis indicate percentages)

As provided in Table 4.19, with regards to the frequency of the veterinary activities performed by FEFs, primary treatment to animal is the prime activity performed regularly by majority (96.67%) of the respondents followed by providing A.I. services (83.33%), conducting pregnancy diagnosis and vaccination programme (80.00%) and organising health camp (56.67%). Same as to conduct periodical survey regarding the disease occurrence (50.83%), identify the quality bull calf produced by A.I. (29.17%) and

participation in collecting data for animal census (28.33) were the activities which were occasionally performed by FEFs.

Table 4.20 Role performance of FEFs in veterinary services

Sl. no.	Particular	Frequency	Percentage
1	Low (< 30.59)	21	17.50
2	Medium(30.59 to 37.67)	73	60.83
3	High(> 37.67)	26	21.67
	Total	120	100

(Mean=34.13)

(SD= 3.54)

On the basis of self rating of above 10 role activities related to veterinary services as expressed by respondents, it could be observed from Table 4.20 that majority (60.83%) of the respondents had medium level of role performance in veterinary services, followed by 21.67 per cent and 17.50 per cent of respondents in high and low level of role performance in veterinary services.

Table 4.21 Activities of role performance of FEFs in extension services

Sl. no.	Particular	Regu-larly	Occasio-nally	Rarely	Never
1	Visiting farm/ home units of farmers for technical advice	62 (51.67)	42 (35.00)	15 (12.50)	1 (0.83)
2	Creating awareness and knowledge about scientific dairy farming practices	43 (35.83)	59 (49.17)	17 (14.17)	1 (0.83)
3	Guidance to dairy farmers to select high yielding dairy animals	41 (34.17)	58 (48.33)	21 (17.50)	00 (00)
4	Involving dairy farmers/ local leaders for transfer of technologies	37 (30.83)	65 (54.17)	17 (14.17)	1 (0.83)
5	Meetings clientele group for follow-up/ feedback	37 (30.83)	56 (46.67)	26 (21.67)	1 (0.83)
6	Preparation and distribution of farm literature for farmers	37 (30.83)	58 (48.33)	24 (20.00)	1 (0.83)
7	Identifying beneficiaries for implementation of dairy and Animal husbandry oriented schemes	35 (29.17)	64 (53.33)	20 (16.67)	1 (0.83)

Sl. no.	Particular	Regula- rly	Occasio- nally	Rarely	Never
8	To organise group meeting, field day, farmers day for dissemination of new technology	34 (28.33)	53 (44.17)	32 (26.67)	1 (0.83)
9	Conducting demonstration on improved dairy farming practices to the farmers	23 (19.17)	58 (48.33)	33 (27.50)	6 (5.00)
10	To organise training programmes for farmers	28 (23.33)	62 (51.67)	28 (23.33)	2 (1.67)
11	Guidance to farmers to start Dairy Co-operatives in your area	26 (21.67)	66 (55.00)	26 (21.67)	2 (1.67)
12	Motivating dairy farmers for enhancing participation in dairy farming	26 (21.67)	77 (64.17)	17 (14.17)	00 (00)
13	Guidance to dairy farmers for availing credit facilities	35 (29.17)	61 (50.83)	24 (20.00)	00 (00)
14	To evaluate the achievement/ performance of dairy development schemes	26 (21.67)	64 (53.33)	26 (21.67)	4 (3.33)
15	Organise the cattle show, calf rallies, dairy mela, milk yield competition etc.	14 (11.67)	58 (48.33)	47 (39.17)	1 (0.83)
16	Participation in mass media as a part of technology transfer activity				
A	TV Programmes	1 (0.83)	10 (8.33)	44 (36.67)	65 (54.17)
B	Radio talk	3 (2.50)	13 (10.83)	42 (35.00)	62 (51.67)
C	Articles in journals	7 (5.83)	15 (12.50)	37 (30.83)	61 (50.83)
D	Web-based article	3 (2.50)	8 (6.67)	43 (35.83)	66 (55.00)

(Figures in parenthesis indicate percentages)

As provided in Table 4.21, with regards to the frequency of the extension activities performed by FEFs, visiting farm and home units of farmer for technical advice was the most important activity performed regularly by more than half of the respondents (51.67%) followed by creating awareness and knowledge about scientific dairy farming practices (35.83%), guidance to dairy farmers to select high yielding dairy animals

(34.17%) and preparation and distribution of farm literature for farmers (30.83%) were the some activities which were regularly performed by FEFs. Same as motivating dairy farmers for enhancing participation in dairy farming (64.17%), guidance to farmers to start Dairy Co-operatives in your area (55.00%) and identifying beneficiaries for implementation of dairy and Animal husbandry oriented schemes (53.33%) were the main activities which were occasionally performed by FEFs. And participation of mass media as a part of technology transfer was rarely performed by FEFs

Table 4.22 Role performance of FEFs in extension services

Sl. no.	Particular	Frequency	Percentage
1	Low (<43.9)	22	18.33
2	Medium(43.9 to 60.48)	82	68.33
3	High(> 60.48)	16	13.34
	Total	120	100

(Mean=52.19)

(SD=8.29)

On the basis of self rating of 19 job items which were related to extension services by respondents, it can be observed from Table 4.22 that majority (68.33%) of the respondents had medium level of role performance in extension services, followed by 18.33 per cent and 13.34 per cent of respondents in low and high level of role performance in extension services.

Table 4.23 Activities of role performance of FEFs in other activities

Sl. no.	Particular	Regularly	Occasionally	Rarely	Never
1	Supervision of sub-ordinates	79 (65.83)	34 (28.33)	5 (4.17)	2 (1.67)
2	Administration	76 (63.33)	37 (30.83)	7 (5.83)	0 00
3	Maintenance of office records	76 (63.33)	38 (31.67)	6 (5.00)	0 00
4	Attending review/ follow up meetings	70 (58.33)	32 (26.67)	15 (12.50)	3 (2.50)
5	Interdepartmental communication	40 (33.33)	64 (53.33)	12 (10.00)	4 (3.33)

(Figures in parenthesis indicate percentages)

From the above Table 4.23 it could be observed that supervision of sub-ordinate is the prime activity which was regularly performed by majority (65.83%) of FEFs,

followed by administration and maintenance of office records (63.33%) and attending review/ follow up meetings (58.33%). Same as interdepartmental communication (53.33%) was the most prime activity which was occasionally performed by FEFs.

Table 4.24 Role performance of FEFs in others activities

Sl. no.	Particular	Frequency	Percentage
1	Low (< 14.82)	15	12.50
2	Medium(14.82 to 19)	74	61.67
3	High(>19)	31	25.83
	Total	120	100

(Mean=15.65)

(SD= 3.58)

On the basis of self rating of 5 job items which were related to other activities such as administration, supervision, etc by respondents, it can be observed from Table 4.24 that majority (61.67%) of the respondents had medium level of role performance in other activities, followed by 25.83 per cent and 12.83 per cent of respondents in high and low level of role performance in other activities.

Table 4.25 Overall role performance of FEFs on self-rating technique

Sl. no.	Particular	Frequency	Percentage
1	Low(< 90.48)	24	20.00
2	Medium (90.48 to 115.46)	75	62.50
3	High (>115.46)	21	17.50
	Total	120	100.00

(Mean=102.97)

(SD=12.49)

On the basis of self rating of 34 role activities by respondents, it can be observed from Table 4.25 and Figure 4.5 that majority (62.50%) of the respondents had medium level of role performance in transfer of technology followed by 20.00 and 17.50 per cent in low and high level of role performance. Figure 4.5 shows the graphical presentation of respondents as per their role performance based on self-rating technique. The reasons for majority of respondents having medium level role performance in transfer of technology are respondents were having medium level job satisfaction, medium level attitude towards work, etc. Similar contentions has been reported by Maity (2002), Nagananda

(2005), Maiti (2007) and Ratnayake (2012) and Goyal (2013), who found that majority of respondents were falls under medium level role performance category.

4.2.2 Prioritization of Role performance items by the Field extension functionaries

The previous Table 4.19, 4.21 and 4.23 presented the role performance of FEFs in performance in veterinary services, in extension services and in other activities but, it does not reveal the among all these 3 activities which role activity was regularly performed by FEFs or which role activity they themselves rating prime activity and performed regularly by FEFs. Hence, prioritization of role performance activities was also done on the basis of weighted mean score and the results have been presented in Table 4.22, The table consisted of all the 34 job items which were scored by the FEFs on the basis of self rating technique. In this the weighted mean score of each activity was calculated and analyzed keeping in view these aspects.

Table 4.26 Prioritization of role performance items by the respondents based on self rating technique

Sl. no.	Particular	Weighted mean score	Rank
1	Providing preliminary veterinary aids or primary treatment to the animals	47.50	I
2	Conducting pregnancy diagnosis	44.9	II
3	Conducting routine vaccination programmes	44.6	III
4	Providing A.I. services	44.2	IV
5	Maintenance of office records	} 43.00	V
6	Supervision of sub-ordinates		
7	Administration	42.90	VI
8	Attending review/ follow up meetings	40.90	VII
9	Visiting farm/ home units of farmers for technical advice	} 40.5	VIII
10	Supply of farm or veterinary inputs to the clientele group		
11	Organising health camp	40.0	IX
12	Creating awareness and knowledge about scientific dairy farming practices	38.4	X
13	Guidance to dairy farmers to select high yielding dairy animals	38.10	XI
14	Interdepartmental communication	38.00	XII

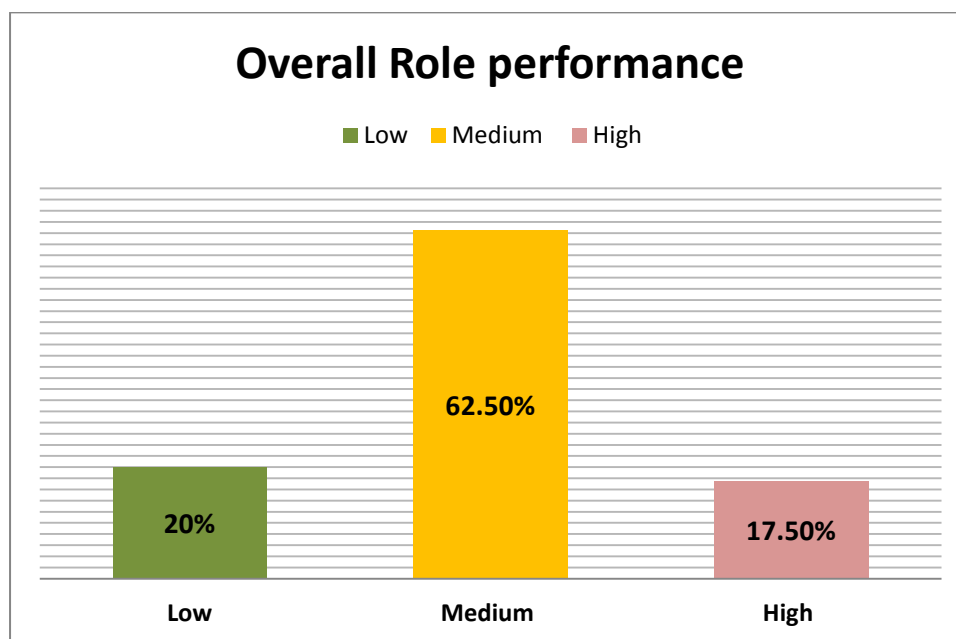


Figure 4.5: Overall role performance of FEFs in Transfer of technology

Sl. no.	Particular	Weighted mean score	Rank
15	Participation in collecting data for animal census	37.9	XIII
16	Involving dairy farmers/ local leaders for transfer of technologies	37.8	XIV
17	Organise mobile veterinary clinics	37.5	XV
18	Preparation and distribution of farm literature for farmers	} 37.1	XVI
19	Guidance to dairy farmers for availing credit facilities		
20	Motivating dairy farmers for enhancing participation in dairy farming	} 36.9	XVII
21	Meetings clientele group for follow-up/ feedback		
22	To conduct periodical survey regarding the disease occurrence	36.4	XVIII
23	To evaluate the achievement/ performance of dairy development schemes	36.2	XIX
24	Identify the quality bull calf produced by A.I.	} 36.0	XX
25	To organise group meeting, field day, farmers day for dissemination of new technology		
26	Guidance to farmers to start Dairy Co-operatives in your area	} 35.6	XXI
27	To organise training programmes for farmers		
28	Guidance to farmers to start Dairy Co-operatives in your area		
29	Conducting demonstration on improved dairy farming practices to the farmers	33.8	XXII
30	Organise the cattle show, calf rallies, dairy mela, milk yield competition etc.	32.5	XXIII
Participation in mass media as a part of technology transfer activity			
31	Articles in journals	20.8	XXIV
32	Radio talk	19.7	XXV
33	Web-based article	18.8	XXVI
34	TV programme	18.7	XXVII

Based on the weighted mean score the role activities of FEFs as per their routine work schedule expressed in self-rating technique showed in Table 4.26 which were regularly or frequently performed by the them. These activities included primary

treatment to the animals (47.50), conducting pregnancy diagnosis (44.90), conducting routine vaccination programmes (44.60), provide A.I. services (44.20), maintenance of office records (43.00), supervision to staff (43.00), administration (42.90), attending review/ follow up meetings (40.90), visiting farm/ home units of farmers for technical advice (40.50), supply of farm or veterinary inputs to the clientele group (40.50), organising health camp (40.00), creating awareness and knowledge about scientific dairy farming practices (38.40), guidance to dairy farmers to select high yielding dairy animals (38.10), interdepartmental communication (38.00), participation in collecting data for animal census (37.90), involving dairy farmers/ local leaders for transfer of technologies (37.80), organise mobile veterinary clinics (37.50), identifying beneficiaries for implementation of dairy and animal husbandry oriented schemes (37.30), preparation and distribution of farm literature for farmers (37.10), guidance to dairy farmers for availing credit facilities (37.10), motivating dairy farmers for enhancing participation in dairy farming (36.90), meetings clientele group for follow-up/ feedback (36.90), to conduct periodical survey regarding the disease occurrence (36.40), to evaluate the achievement/ performance of dairy development schemes (36.20), identify the quality bull calf produced by A.I. (36.00), to organise group meeting, field day, farmers day for dissemination of new technology (36.00), guidance to farmers to start Dairy Co-operatives in their respective area (35.60), to organise training programmes for farmers (35.60), conducting demonstration on improved dairy farming practices to the farmers (33.80), organise the cattle show, calf rallies, dairy mela, milk yield competition (32.50) and participation in mass media as a part of technology transfer activity a) articles in journals (20.80), b) radio talk (19.70), c) web-based article (18.80), d) TV programmes (18.70).

The above result might be due to the fact that the role expectation and job assigned in the official organisational set up added with prescribed duties by the superior and preference made according to the respondent's perception in the job.

4.3 Relationship of the socio-personal, socio-psychological, organisational and communicational characteristics of the respondents with their role performance

Role performance of FEFs is governed by socio-personal, socio-psychological, organisational and communicational variables involved in situation. Role performance of FEFs varies from individual to individual because of the difference with their personal attributes. Therefore, an attempt has been made in this study to analyze the relationship between socio personal, socio psychological, organisational and communicational variables of the FEFs and their role performance. This analysis was done using Karl Pearson's coefficient of correlation (r) (Table 4.27) and Chi square test (Table 4.28). The correlation analysis of independent variables with role performance is presented below:

Table 4.27 Correlation analysis of the independent variables with role performance of FEFs in

Variable number	Independent variable	Role performance (Y) Correlation coefficient “r”
X1	Age	0.439**
X2	Educational qualification	0.175NS
X3	Work experience	0.445**
X4	Training received	0.352**
X5	Social participation	0.311**
X6	Attitude towards work	0.428**
X7	Job involvement	0.530**
X8	Achievement motivation	0.049 NS
X9	Job stress	-0.243**
X10	Job satisfaction	0.527**
X11	Organisational climate	0.191*
X12	Information seeking behavior	0.174 NS

** Significant at the 0.01 level of significance * Significant at the 0.05 level of significance, NS- non significant

The findings with regards to the relationship of selected independent variable with role performance of FEFs presented below.

4.3.1 Age and role performance

Table 4.27 revealed that age of the FEFs had positive relationship with their role performance ($p < 0.01$). This could be because experience of an individual increases with age, which enhances their role performance. This finding is in accordance with the findings reported by Manjula (2002), Ratnayake (2012) and Goyal (2013), who had reported that association between age were non-significant and positive. However, Mishra (2005) and Sandika (2007) found that age has negative effect on the role performance

4.3.2 Educational qualification and role performance

Table 4.27 indicated that educational qualification of the respondents had no significant relationship ($p > 0.05$) with their role performance. As most of respondents were recruited on the basis of basic degree of B.V.Sc & AH which might be the reason of non-significant association of education with the role performance. Role performance not only depends on the level of formal education but also on the others factors like practical orientation, integration of knowledge and skills, good communicational skills, favorable attitude towards your work, competency etc.

This study was in line with the findings of Mohan (2000), Mishra (2005), Aimble (2011), Ratnayake (2012) and Goyal (2013), who reported that there was no significant relationship between the education and role performance.

4.3.3 Work experience and role performance

Table 4.27 showed that role performance of respondents had positive relationship with their work experience ($p < 0.01$). The reason for significant and positive relationship between work experience and role performance could be that with the increase in experience, FEFs had more exposure to different job activities and had expected acquaintance for efficient role performance.

This finding was in accordance with Goyal (2013) and not so with the findings of Aimable (2011), who reported non-significant association between experience and job performance.

4.3.4 Training received with role performance

From the Table 4.27 it could be observed that there was positive relationship between training received and role performance of FEFs ($p < 0.01$). Thus, the research findings prove that training play a vital role in role performance of FEFs. It could be due to the fact that training helps in refining the individuals maximum potential by way of increasing knowledge, improving skills, changing his attitude and improving behavior enabling him to perform his job efficiently. It increases the capacity of FEFs to perform the various activities assigned to him. This finding was in accordance with the findings of Patel (2006).

4.5.5 Social participation and role performance

As revealed from Table 4.27 there was a positive relationship between social participation of FEFs with their role performance ($p < 0.01$). The probable reasons for this finding might be because if a respondent is a member or office bearer of any organisation, he/she will have more exposure to professional activities which enhance the role performance.

4.5.6 Attitude towards work and role performance

It is apparent from the Table 4.27 that attitude towards work of FEFs had positive relationship with their role performance ($p < 0.01$). It could be concluded that FEFs with positive attitude towards work had higher level of role performance. Attitude is a psychological variable upon which other variables like concentration, commitment and dedication of FEFs are built up and hence ultimately it has influence on their role performance. This finding is in accordance with that of Manjula (2000) and Patel (2006).

4.3.7 Job involvement and role performance

The perusal of data presented in Table 4.27 indicated that job involvement had positive relationship with respondent's level of role performance ($p < 0.01$). It implies that those FEFs who have more job involvement perform better than those who posses low level of job involvement.

This explains that job involvement is an important variable and plays crucial role in role performance of respondents. The probable reason for better role performance might be due to the fact that the job involvement of respondents made him to consider

work as an important part of life and he has affinity with whole job situation viz. the work itself, his co-workers and the organisation, which resulted in better job performance. This finding is in line with Patel (2006), Aimble (2011) and Goyal (2013).

4.3.8 Achievement motivation and role performance

Table 4.27 indicated that there was non-significant relationship between achievement motivation of FEFs with their role performance ($p>0.05$). It is assumed that achievement motivation directs the individual towards reaching some goals, which he has set for himself. Higher the association of achievement motivation higher will be the individual efforts. Reason for this finding might be due to lack of promotional opportunities available to FEFs, lack of recognition for quality work and work pressure which might have deterred their enthusiasm to strive hard.

The results were in agreement with Mohan (2000), Mishra (2005) and Patel (2006), who found achievement motivation and role performance to be non-significantly associated with each other

4.3.9 Job stress and role performance

It is apparent from the data presented in the Table 4.27 that a job stress level of the respondent had negative relationship with their role performance ($p<0.01$). This could be due to the fact that any kind of stress decreases the efficiency of a person to perform any activity which in exchange also significantly reduces the role performance of the individual. The probable reasons for job stress may be due to the FEFs were not well acquainted with the nature of their job and found their job to be highly demanding, inadequate staff in department, poor infrastructural facilities and more work pressure.

These findings were in line with the findings of Bosco (2000), Nagananda *et al.* (2006) and Sandika *et al.* (2007) and Goyal (2013), who found that job stress had significant and negative association with job performance

4.3.10 Job satisfaction and role performance

Table 4.27 showed that the job satisfaction level of FEFs had positive relationship with their role performance ($p<0.01$), which indicates that with higher level of job satisfaction of FEFs there is increased level of role performance of FEFs. This might be due to the fact that the FEFs role expectations and role performance and the existing gap

might be narrowed down as expressed in this study. It is an established fact that the performance of any individual is largely affected by the satisfaction which leads to qualitative and quantitative improvement in overall role performance. Satisfaction in job induces motivation and interest in work and role performance depends on one's motivation has ultimately determined by power of existing incentives as well as disincentives aimed at transformation of the ability to do in to will to do. This finding is in accordance with Patel (2006), who found the positive association between job performance and level of job satisfaction of extension personnel.

4.3.11 Organisational climate and role performance:

As revealed from Table 4.27 that there was a positive relationship between organisational climate of FEFs with their role performance ($p < 0.01$). This might be due to the conducive environment for individuals to perform their activities with adequate work, freedom to perform freely and take their own decision efficiently their level only. The above findings were in line with Aimable (2013) and not so with Mohan (2000).

4.3.12 Information seeking behavior and role performance:

It can be observed from Table 4.27 that information seeking behavior of respondents had non-significant relationship with their role performance ($p > 0.05$). It might be due to the fact that there were different sources of information and FEFs use them at different frequency based on the extent of the information needed.

The results are in accordance with Aimable (2011) who found non-significant relationship between information behavior and role performance and not in line with Goyal (2013), who found significant and positive relationship between role performance and source of information utilization.

Table 4.28 Chi square analysis for the association between categorical independent variables and role performance of FEFs in transfer of technology

Sl. no.	Attributes	Chi square value	p-value
X1	Gender	12.360	0.002**
X2	Marital status	25.604	0.000**
X3	Rural/ urban background	2.022	0.364
X4	Family occupation	3.196	0.202

** Significant at the 0.01 level of significance

From above table 4.28, it could be observed that gender and marital status were having positive and significant relationship ($p < 0.01$), whereas other variables viz., rural/urban background and family occupation were found non-significant relationship with role performance of FEFs.

4.3.13 Gender and Role performance

Table 4.29 Association between role performance and gender

Role performance	Male	Female	Total
Low	15 (14.7%)	9 (50.0%)	24 (20.0%)
Medium	67 (65.7%)	8 (44.4%)	75 (62.5%)
High	20 (19.6%)	1 (5.6%)	21 (17.5%)
Total	102 (85.00)	18 (15.00)	120 (100.00)

Chi square value 12.360 and p-value 0.002

As presented in Table 4.28 that gender had positive relationship with role performance of FEFs ($p = 0.02$). Table 4.29 presented the association between role performance and gender of FEFs. In the case of male respondents, the majority (65.7%) possessed medium level of role performance, followed by (14.7%) low and (19.6%) high level of role performance respectively. In case of the female respondents, the half of them (50.00%) possessed low level of role performance followed by significant percentage (44.4%) with medium level and a small percentage (5.6%) had high level of role performance.

4.3.14 Marital status and role performance

Table 4.30 Association between role performance and marital status of FEFs

Role performance	Married	Unmarried	Total
Low	13 (12.6%)	11 (64.7%)	24 (20.0%)
Medium	69 (67.0%)	6 (35.3%)	75 (62.5%)
High	21 (20.4%)	0 (0.0%)	21 (17.5%)
Total	103 (85.8)	17 (14.2)	120 (100.00)

Chi square value 25.604 and p-value 0.000

Table 4.28 indicated that marital status of FEFs having positive relationship with their role performance ($p=0.00$). Table 4.30 has shown that majority (67.00%) of married respondents had medium level of role performance, whereas majority (64.7%) of unmarried respondents had low level of role performance. When 20.4 per cent of married respondents had high level of role performance, it was none in the category of unmarried respondents.

The above findings are in accordance with Tiwari (1989) who found that marital status of Livestock assistant is positively related with their job performance and not in line with the findings of Patel (2006) and Maity (2007), who reported that marital status is having negative relationship with role performance of extension personnel and Pranibandhu, respectively.

4.3.2.3 Rural/ urban background and role performance

Table 4.28 revealed that rural/ urban background of FEFs found to be non significant relationship with their role performance ($p=0.364$). This finding was in accordance with Sundraswamy and Perumal (1992), who reported that rural/urban background did not significantly affect the job performance of AAOs, and not in line with Gogoi and Talukdar (1998) who found that family background significantly associated with role performance of scientist.

4.3.2.4 Family occupation and role performance:

Table 4.28 indicated that family occupation of FEFs found to be non significant relationship with their role performance ($p=0.202$). The finding is in line of findings of Patel (2006), who also found that family occupation does not have any significant relationship with role performance of extension personnel.

4.3.4 Contribution of Selected Independent Variables to role performance of FEFs in transfer of technology

Multiple linear regression analysis was analyzed to identify the contributing variables which contribute significantly towards the variation in role performance of the respondents. It included all the significant variables which affect the role performance of FEFs except age (as age is highly correlated with work experience ($r=0.920$)). The results of multiple linear regression analysis are shown in Table 4.31.

Table 4.31 Multiple linear regression analysis of the independent variables with role performance

Variable number	Independent variable	'b' value	SE	't' value	'p' value
X1	Gender	-0.027	2.550	-0.363	0.717
X2	Marital status	-0.201	3.051	-2.355	0.020*
X3	Work experience	0.096	0.125	0.954	0.342
X4	Training received	-0.030	0.671	-0.326	0.745
X5	Social participation	0.205	0.691	2.785	0.006**
X6	Attitude towards work	0.104	0.444	1.282	0.202
X7	Job involvement	0.264	0.360	3.290	0.001**
X8	Job stress	0.035	0.344	0.480	0.632
X9	Job satisfaction	0.296	0.242	3.546	0.001**
X10	Organisational climate	0.054	0.186	0.733	0.465
$R^2 = 0.524$ $F = 11.992^{**}$					

Dependent Variable: Role performance ** Significant at the 0.01 level of significance

R^2 - Coefficient of determination * Significant at the 0.05 level of significance

SE- Standard Error b value - Regression coefficient value

The findings from Table 4.31 indicated that the R^2 value with 10 independent variables turned out to be 0.524 with F value 11.992 which was found to be significant ($p < 0.01$). Thus, it indicated that 52.40 per cent of the significant variation in the role performance was explained by the independent variables covered under the study.

It is found that only four variables namely marital status, social participation, job involvement and job satisfaction were significant contributing variables to role performance of FEFs. Testing of regression coefficient revealed that job satisfaction, job involvement, social participation, marital status in order of importance respectively ($p < 0.05$) contributed positively and significantly towards the role performance of FEFs.

4.4 Constraints faced by the respondents in transfer of technologies to the farmers

A critical analysis of improving the role performance, it is imperative to explore constraints faced by FEFs. Hence, an attempt was made in the study to understand the constraints affecting the role performance of FEFs and for developing strategy to overcome the same. The constraints affecting the role performance of FEFs were studied in six major heads:

- ❖ Technological constraints
- ❖ Physical constraints
- ❖ Organisational constraints
- ❖ Communicational constraints
- ❖ Economic constraints
- ❖ Personal constraint

4.4.1 Technological Constraints

Table 4.32 Ranking pattern of technological constraints

Sl. no.	List of technological constraints	Weighted Mean Score	Rank
1	Lack of appropriate technologies for transfer of technology	35.50	I
2	Lack of participation of farmers in transfer of technology	34.80	II
3	Lack of knowledge about dairy development programmes among the farmers	34.40	III
4	Lack of technical and financial support for dairy developmental programmes	33.70	IV
5	Reluctance of dairy farmers towards adoption of improved practices and innovations	32.10	V

The data reported in the given Table 4.32 revealed that out of the five technological constraints, lack of appropriate technologies for transfer of technology with weighted mean score 35.50 emerged as the most important technological constraint. Extension personnel perceived that they have the technology that was not meeting with clientele need. The clientele needs play an important role in adoption of improved dairy technology, hence need-based technologies are well-received by clientele when compared to the recommended technologies. This finding was in accordance with Devi (2004). Then the second most important one was lack of participation of farmers in transfer of technology (34.80) in term of presence and response of farmers towards training programme, group meetings and demonstration. This finding was in line with Sundarambal and Annamalai (1999), who also reported that lack of farmer participation was the major constraint in transfer of dryland technology.

Lack of knowledge about dairy development programmes among the farmers (34.40) was the third important technological constraint. This was due to the inadequate extension services and farmers were not getting timely help and information about the programmes. This result is accordance with Goyal (2013), who also found that lack of knowledge regarding dairy innovation among dairy farmers was important constraint experienced by veterinary surgeons in Haryana.

Then lack of technical and financial support for dairy developmental programmes (33.70) and reluctance of dairy farmers towards adoption of improved practices and innovations (32.10) were also the important technological constraints expressed by respondents.

4.4.2 Physical constraints

Table 4.33 Ranking pattern of physical constraints

Sl. no.	List of physical constraints	Weighted Mean Score	Rank
1	Poor infrastructure facilities	36.10	I
2	Lack of input supply for programmes	35.90	II
3	Poor transport facilities	35.70	III
4	Poor communication facilities	32.90	IV
5	Lack of facilities of cold storage for medicines and vaccines	30.00	V

Table 4.33 shows that the extension personnel of both DAH & VS and KMF perceived poor infrastructure facilities with weighted mean score 36.10 as the most important physical constraint to them, as they perceived that the building is very old and it does not have basic and adequate amenities viz. drinking water, stationery and equipments. And in majority of the cases the accommodation was inadequate. This result is in line with Goyal (2013).

Lack of input supply for programme implementation (35.90) was the second major constraint as perceived by the respondents. It is the fact when all the inputs required for implementation of any programme is available in time to facilitate extension personnel for effective transfer of technology. But due to certain formalities as delay in

getting the various inputs from department, hinder the effective ToT. This finding is in confirmation with Sundarambal and Annamalai (1999), who reported lack of input supply is the major constraints expressed by 86.66 per cent of extension personnel.

The third important perceived constraint is the poor transport facilities (35.70) as most of the respondents have to travel long distance and they were not provided with the vehicles and travelling allowances for their field visits. Transport facilities are essentially needed for efficient execution of regular extension work and effective transfer of technology. The findings of Nagananda *et al.* (2006) and Goyal (2013) fit well in this line.

Then fourth important one is poor communicational facilities (32.90) and fifth one is lack of facilities of cold storage for medicines and vaccines (30.00) were also important physical constraints, as perceived by the respondents.

4.4.3 Organisational constraints

Table 4.34 Ranking pattern of organisational constraints

Sl. no.	List of organisational constraints	Weighted Mean Score	Rank
1	Inadequate staff strength in department	36.40	I
2	Lack of proper transfer policy	36.20	II
3	Poor promotional opportunities	34.90	III
4	Lack of training to improve technical know how	34.60	IV
5	Political interference	34.30	V
6	Lack of reward and recognition	34.00	VI
7	Delay in sanction and financial allotment for implementation of programmes	33.90	VII
8	Inadequate co-operation from other line-departments	33.70	VIII
9	More administrative work	32.80	IX
10	Poor coordination and cooperation among different agencies working under same department	32.50	X

According to data depicted in Table 4.34, inadequate staff strength in both departments (36.40) is the most important constraints among all the organisational constraints. Due to limited recruitment there was inadequate staff strength and more work load per person and increased area of jurisdiction. Extension personnel are required to execute the regular extension work and hence lack of adequate staff had been a serious matter of concern in the both the departments for effective and efficient dairy service delivery system. This finding is in confirmation with Devi (2004), Ratnayake (2012) and Goyal (2013).

Lack of proper transfer policy (36.20) was the second most important organisational constraints as the respondents faced frequent transfer in their job due to which there was lack of security of their tenure at same place.

Poor promotional opportunities (34.90) was the third important organisational constraint. It was also inferred that with better promotional opportunities the extension personnel could improve their status both in organisation and society, the poor promotional opportunities in both departments made the extension personnel to rate this particular constraints as the important one. This finding is in line with the result of Nagananda *et al.* (2006).

Then lack of training to improve technical know-how (36.40), political interference (34.4), lack of reward and recognition (34.00) were the other important organisational constraints as perceived by the respondents.

4.4.4. Communicational constraints

Table 4.35 Ranking pattern of communicational constraints

Sl. no.	List of communicational constraints	Weighted Mean Score	Rank
1	Lack of access to research publication for field work	33.00	I
2	Poor Research-Extension-Farmer linkage	30.90	II
3	Poor communication facilities for executive work	30.80	III
4	Lack of time for media participation	24.80	IV

Data showed in Table 4.35, among the four communicational constraints lack of access to research publication for field work (weighted mean score 33.00) emerged as the most important constraint indicating that the library facilities, online access of research journals are not adequately available to extension personnel, so they were facing problem in updating their professional knowledge regarding animal husbandry and dairying aspects and thereby affecting their performance in transfer of technology.

Poor Research-Extension-Farmer linkage (30.90) is the second most important communicational constraint perceived by respondents, as new research findings and new technologies should reach to farmers for their use, but due to poor research-extension-farmer linkage with the effective department the technology transfer process is getting affected. This finding is in line with Goyal (2013).

Poor communication facilities for executive work (30.80) and lack of time for media participation (24.80) were the other important communicational constraints.

4.4.5 Economic constraints

Table 4.36 Ranking pattern of economic constraints

Sl. no.	List of economic constraints	Weighted Mean Score	Rank
1	Inadequate retirement benefits	33.20	I
2	Salary is not sufficient when compared with work load	32.00	II
3	Inadequate TA & DA	31.90	III
4	Inadequate leave	31.20	IV
5	Inadequate incremental pattern	30.70	V
6	Irregular & inadequate supply of funds	30.60	VI

From the data Table 4.36, it is revealed that inadequate retirement benefits (with weighted mean score 33.20) is the most important economic constraints as respondents were not getting sufficient retirement benefits, Salary is not sufficient when compared with work load (32.00), was the second important economic constraints as perceived by the respondents. This could be due to the increasing workload as perceived by the respondents.

Inadequate TA & DA was ranked third important economic constraint by respondents with mean score 31.90. The extension personnel had to be on tour to supervise the stockman centers under administrative control and to organise the mass contact programmes and meetings with dairy farmers. The extension personnel feels that existing TA and DA as inadequate to meet their genuine requirement during the field visits. The results is in line with Venkatasubramaniam (1991)

Inadequate leave (31.20), inadequate incremental pattern (30.70), irregular & inadequate supply of funds (30.60) were the other important economic constraints as expressed by respondents.

4.4.6 Personal Constraints

Table 4.37 Ranking pattern of Personal Constraints

Sl. no.	List of personal constraints	Weighted Mean Score	rank
1	Lack of support from superiors and colleagues	31.90	I
2	Lack of participation in programme planning	30.90	II
3	Wider working jurisdiction	30.20	III
4	Lack of involvement in decision making	29.50	IV
5	Health problems	21.20	V
6	Poor communicational skills	20.50	VI

The data in Table 4.37 revealed that out of six personal constraints, lack of support from superiors and colleagues (31.90) was the most important personal constraint. As the working atmosphere is not conducive among the superiors and colleagues that could be due to the lack of professionalism, and other personal reasons in the organisation.

Lack of participation in programme planning (30.90) was second most important personal constraints as respondents were not involved in the programme planning process in departments, which follow top down approach for planning the various developmental programme. It reflects the situation where planning was done by someone and responsibility of implementation and success was given to other who were not directly involved in the programme planning process. This finding is in confirmation with Venkatasubramaniam (1991). Wider working jurisdiction (30.20) is third important constraint as, extension personnel faces problems in adequately meeting the needs of the

farmers in their jurisdiction. Lack of involvement in decision making (29.50), health problems (21.20), poor communicational skills (20.50) were the other personal important constraints.

It could be concluded from the above research findings the major constraints as expressed by the respondents which affect the transfer of technology were inadequate staff strength in department, lack of proper transfer policy, poor infrastructural facility, lack of input supply for programme implementation, poor transport facility, lack of appropriate technology, poor promotional opportunities, lack of participation of farmers for transfer of technology and lack of training to improve technical know-how.

4.5 Strategies for enhancing role performance in effective transfer of technology

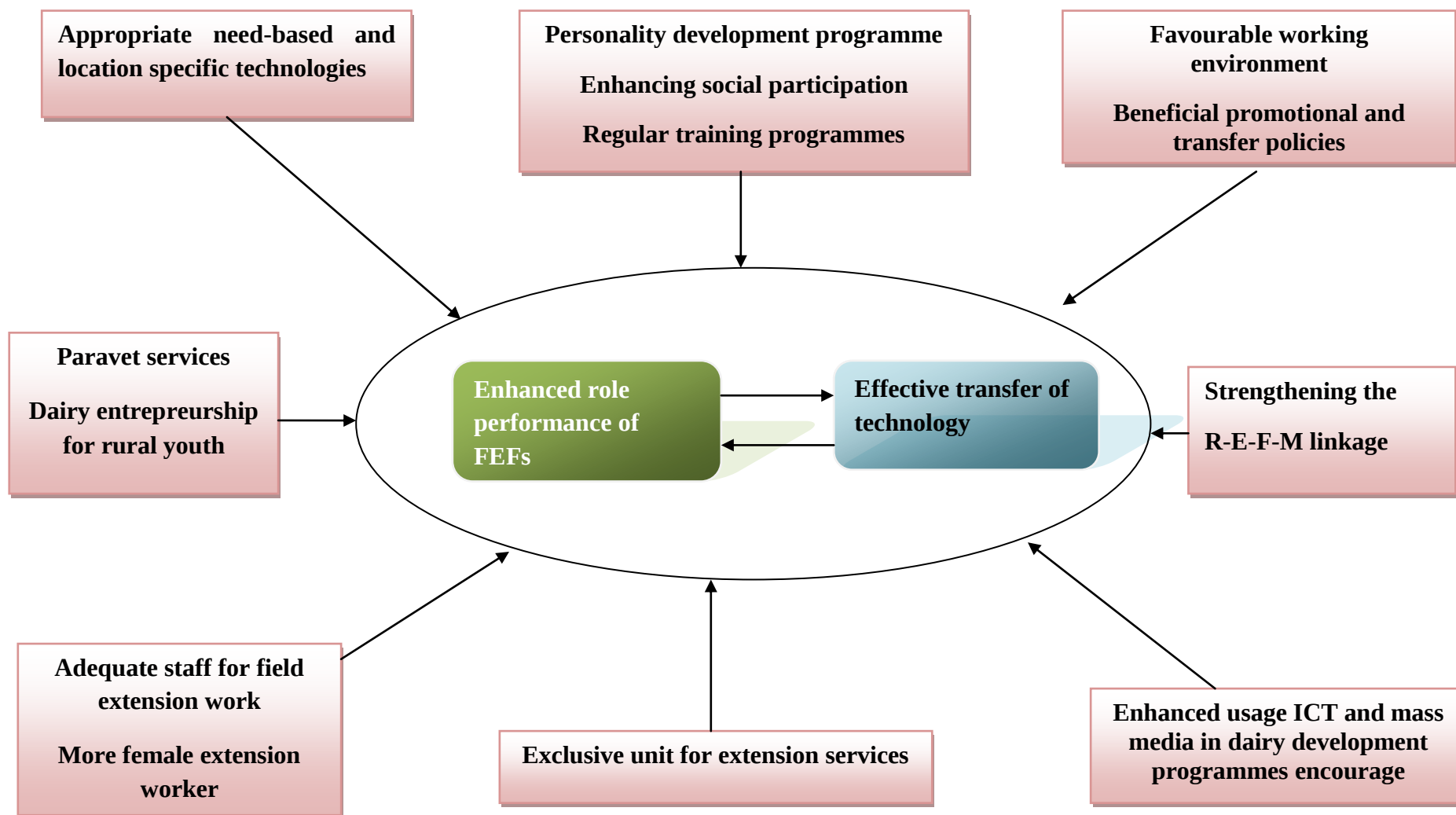
Based on the major findings of the study and critical appraisal of perceived constraints as expressed by the respondents and suggestions provided by respondents, strategies to enhance the role performance of FEFs is formulated for effective as discussed below and diagrammatically presented in Figure 4.6.

- Adequate staff needed for each cadre of DAH&VS and KMF.
- Personality improvement programme should be organising to decrease the job stress as the job stress is positively and significantly associated with role performance of FEFs.
- Encouraging social participation for enhanced professional excellence of FEFs.
- Favourable working atmosphere should be created with increasing the incentive, rewards and awards for quality work
- Regular training programme for FEFs as well as farmers to enhance technical know-how
- ICT and Mass media usages in should be encourage
- Policy decision for better promotional and transfer opportunities
- More women extension workers needed because dairy is a mainly women oriented activity
- Strengthening Research-Extension-Farmers-Marketing linkages for effective transfer of technology

- Facilitation and mobilization of local leaders/progressive farmers for transfer of technology
- Need based & location specific research and training should be encouraged
- Dairy entrepreneurship should be encouraged among the rural youth
- Paravet services were most effective in case of technology transfer in dairy technology as they were closely related with rural people or dairy farmer
- Exclusive unit of extension services need to be created in both organisations which could focus on technology transfer, level of adoption, their consequences and feedback from farmers

4.6 Empirical model for the study

The salient findings of the study are depicted in the empirical model of study which is diagrammatically presented in figure 4.7. It is found that age, gender, marital status, work experience, training received, social participation, attitude towards work, job involvement and job satisfaction and organisational climate and job stress had significant influence on role performance of FEFs whereas educational qualification, rural/urban background, family occupation, achievement motivation, and information seeking behavior had non-significant relationship with role performance of FEFs.



FEFs- Field Extension Functionaries, ICT- Information Communication Technology, R-E-F-M – Research- Extension-Farmer-Marketing

Figure 4.6: Strategies for enhancing role performance of FEFs for effective transfer of technology

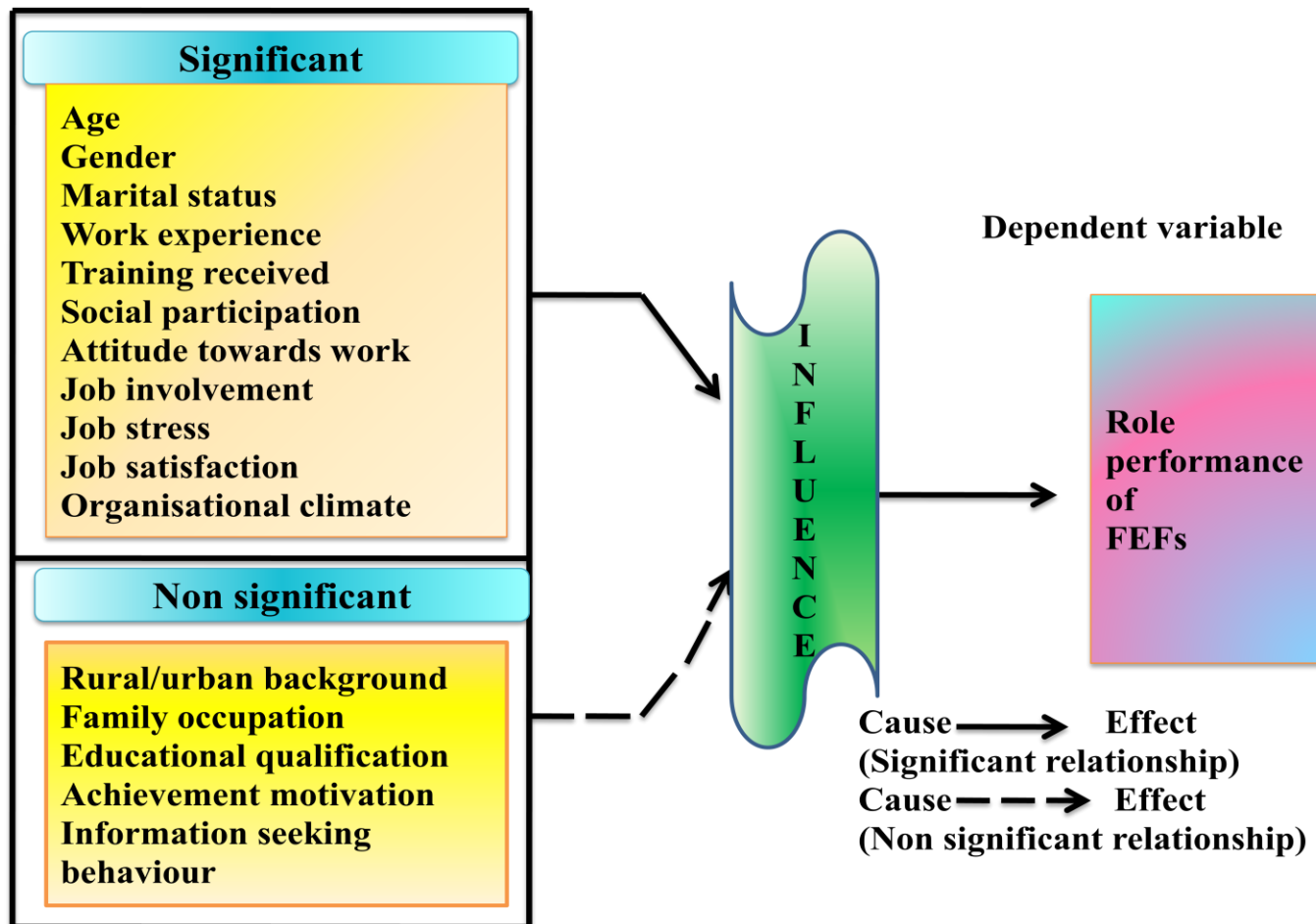


Figure 4.7: Empirical model showing relationship between dependent and independent variable

CHAPTER – 5

Summary and Conclusion

5. SUMMARY AND CONCLUSION

In this chapter, the significant findings of the present research study in a nutshell with respect to summary, major findings, conclusions, implications and suggestions for future study have been given in this chapter.

Summary

Agriculture is a well integrated sector in Indian economy and traditionally livestock rearing has been part of rural populace where dairying provides constant and assured income, nutrition and gainful employment. It is secondary source of income for about 70 millions rural households. For solving the problem of unemployment and economic crises among rural poor, landless labours, marginal farmers Government has launched several dairy development programme, but the objective of these development programmes could be realised only when the field level extension personnel implementing those programmes perceive well and understand their role better in order to perform them with all interest and ingenuity in their respective position.

Research efforts mainly focus to develop technologies to increase livestock productivity but this effort will not have any impact unless the technologies are transferred to the farmers. Three kinds of resources are needed for the rapid dairy sector growth viz. capable scientific group at work on the problems of the farm people (research system), farmers who have confidence that the science can help them (client system) and a bridge of communication to carry the message from the scientists to the farmers (extension system). Extension system is a function of social and economical transformation through adoption of a dairy innovation. Dairy development is one of the means to accelerate this transformation. Adoption of dairy or livestock innovations can be considered as best means to achieve ends of increasing productivity, income and thereby living standard. Livestock productivity depends upon the extent to which farmers adopt improved recommended practices under existing scenario. An array of production oriented research and extension scheme have been launched by Government of India since independence. The success or failure of such programmes depends on the quality

and competence of field extension functionaries to perform their role and factors influencing at various stages and levels. Keeping in view above aspects, the present research study entitled **“Role Performance of Field Extension Functionaries in Transfer of Technology in Dairy Sector of Bangalore districts”** was under taken with following objectives:

1. To study the role performance of field extension functionaries in dairy sector for transfer of technology
2. To identify the factors influencing the role performance of field extension functionaries in transfer of technology
3. To identify the constraints faced by field extension functionaries in transfer of technology and evolve strategies for effective transfer of technology

5.1 Research methodology

The research methodology included systematic series of procedure for identification of the problem, procedure for selection of respondents, research design, selection, operationalisation and empirical measurement of independent and dependent variables, method of data collection and statistical tools used.

The present study was undertaken in Karnataka State. Two districts namely Bangalore rural and Bangalore urban have been selected purposively. In each district respondents those who were contributing towards technology transfer from Department of Animal Husbandry & Veterinary Services and Karnataka Milk Federation were selected. A total of 120 respondents were selected by simple random sampling technique, 30 respondents from each department of each selected district were selected. Data were collected with the help of a well-structured, pretested questionnaire through personal visits and discussion with respondents. Suitable statistical tools and technique like frequency, percentage, Mean, standard deviation, Pearson correlation coefficient analysis, chi square test, multiple linear regression and weighted mean score were used for data analysis in order to draw meaningful conclusions. The important findings of the study are summarized as presented below.

5.2 Major findings of the Research Study

- A considerable percentage (43.34%) of the FEFs belonged to middle aged category and an equal 28.33 per cent were in the old age category as well as in young age categories, with a mean age of 42.63 years.
- A large majority of the FEFs (85.00%) were male and rest of the respondents were female.
- A large percentage (85.83%) of the respondents belonged to married category and the rest belonged to unmarried category.
- Maximum number of the FEFs (62.50%) of respondents possessed professional UG degree (B.V.Sc. & AH) and a sizeable percentage (20.00%) possessed professional PG (M.V.Sc.) and rest of them 17.50 per cent possessed basic UG/ PG degree (B.A., B.Com., B.Sc., M.Sc.) and none of the respondents found to possess doctorate degree.
- Most of the respondents (80.00%) were found to have rural background while remaining were found to have urban background.
- A notable share of FEFs (72.50%) found to have farming as their family occupation while rest were found to have non farming as their family occupation.
- A significant percentage (59.17%) of the respondents possessed medium level of experience, and a sizeable (22.50%) and (18.30%) of respondents possessed low and high category of work experience respectively. The experience of FEFs ranged from 0 years to 34 years with a mean of 16 years.
- Nearly half of the respondents (47.50%) had received 3 to 4 numbers of trainings followed by 23.33 per cent of the respondents had received 1 to 2 numbers of trainings and 20.00 per cent of respondents had exposed to more than 4 numbers of trainings in their whole service period and the rest (12.50%) of respondents did not have any training exposure.
- Nearly one-third (29.17%) of respondents had membership in 1 to 3 organisations, while, limited percentage (5.00%) of respondents were having membership in more than 3 organisations and a small percentage of respondents (5.83%) were the office

bearer of one or other organisation. It was also found that most of the respondents (60.00%) were not a member of any organisation.

- Most of the respondents (65.00%) had a favourable attitude towards work and a sizeable (19.17%) share of the respondents had less favourable attitude towards work and the rest (15.83%) of them had more favourable attitude towards work.
- Major share of the FEFs (70.83%) possessed medium level of job involvement, followed by a fair percentage (11.67%) and (17.50%) of the respondents fall under high and low level category of job involvement respectively.
- Nearly two- third of respondents (64.17%) had medium level of achievement motivation whereas a sizeable percentage (22.50%) and (13.33%) of FEFs had low and high achievement motivation category respectively.
- A large majority (80.83%) of the respondents experienced medium level of job stress, while a marginal percentage (10.00%) and (09.17%) of them experienced low and high level of job stress, respectively.
- Slightly more than two-third (68.33%) of respondents had moderate level of job satisfaction, followed by a sizeable percentage of (11.67%) at highly satisfied category and rest (20.00%) had dissatisfied category.
- Major share of respondents (71.67%) perceived organisational climate as favourable while a sizeable (18.33%) and a small percentage (10.00%) of them perceived the less favourable and most favourable respectively.
- An ample share (64.17%) of the field extension functionaries had a medium level of information seeking behaviour, while 21.67 and 14.16 per cent of them had low and high information seeking behaviour.
- It is found that among the all sources majority of respondents seeks information related to technical work from their colleagues with (weighted mean score 47.83), followed by senior offices (43.50), newspaper (43.00), internet (39.67), farm magazines (38.33) and television (37.33).
- On the basis of self rating technique, most of the respondents (62.50%) had medium level of role performance in transfer of technology followed by a fair percentage (17.50%) and (20.00%) of respondents had high and low level of role performance category respectively.

- With regard to activity wise role performance, majority of FEFs possessed medium level performance in all three categories of services of FEFs namely Veterinary services (60.83%), extension services (60.83%) and other activities (61.67%).
- Most prioritized aspects of the role performance related to transfer of technology which were regularly performed by the FEFs were primary treatment to the animals with (weighted mean score 47.50), conducting pregnancy diagnosis (44.90), conducting routine vaccination programmes (44.60), provide A.I. services (44.20), maintenance of office records (43.00), supervision to staff (43.00), administration (42.90), attending review/ follow up meetings (40.90), visiting farm/ home units of farmers for technical advice (40.50) etc.
- Least prioritized activities of role performance were organising training programmes for farmers (weighted mean score 35.60), conducting demonstration on improved dairy farming practices to the farmers (33.80), organise the cattle show, calf rallies, dairy mela, milk yield competition (32.50), participation in mass media as a part of technology transfer activity (20.80) etc.
- Role performance of FEFs was positively correlated with age, work experience, training received, social participation, attitude towards work, job involvement and job satisfaction ($p < 0.01$) and organisational climate ($p < 0.05$). Job stress was negatively correlated with role performance of FEFs ($P < 0.01$).
- In case of categorical variables gender and marital status were significantly associated with role performance of FEFs ($p < 0.01$).
- It was found from the study that 52.40 per cent of significant variation in role performance was explained by the independent variables covered under the study. Variables namely marital status, social participation, job involvement, and job satisfaction were found to have significant and positive influence on role performance of FEFs in transfer of technology.
- Major constraints which were mostly faced by FEFs include inadequate staff in department, lack of proper transfer policy, poor infrastructural facility, lack of input supply for programme implementation, poor transport facility, lack of appropriate technology, poor promotional opportunities, lack of participation of farmers for transfer of technology and lack of training to improve technical know-how etc.

5.3 Conclusions and implications from the study

Based on the findings of the study the implications are as mentioned below:

- ❖ Since majority of respondents were having medium level of role performance, needed efforts should be taken by DAH&VS and KMF to increase the role performance of FEFs through organisational initiatives.
- ❖ Social participation of respondents revealed positive and significant relationship with role performance FEFs even though majority were not the member of any organisation. It is essential to encourage enhancing the participation of FEFs in more professional organisations, it will increase their role performance at more satisfactory level.
- ❖ On an average members have attended 3 to 4 number of training programmes in their service and it is positively correlated with role performance so organising regular in-service and refresher trainings programmes will help in increasing their performance.
- ❖ Job satisfaction is found to have highly positive and significant relationship with role performance, and majority of respondents were found to have moderately satisfied with their job. Hence, department should provide incentives, rewards and facilitate more favourable working conditions to improve their job satisfaction thereby enhance their role performance.
- ❖ Care to reduce job stress of FEFs to be initiated as it was negatively and significantly associated with role performance. Hence organisational policy makers should take necessary steps and pay due attention to weed out undesirable conditions which cause job stress and create conducive work environment for enhanced role performance to aim at effective transfer of technology for the farming community.
- ❖ As technology transfer activities have a direct effect on enhanced milk production, institutional efforts to prioritized extension activities in the job chart of FEFs.
- ❖ Inadequate staff was most important constraint which has to be addressed by both departments and department should fill the vacant post for effective functioning of department as soon as possible.
- ❖ Lack of proper transfer policy is also a major constraint which has to be taken care that frequent transfer should be avoided and at least transfer should be done after 4-5 year of service.

- ❖ Poor infrastructural facilities, lack of input supply for programme implementation, poor transport facility, lack of training to improve technical know-how, and poor promotional opportunities the important constraints which were found in department which affect the role performance of FEFs in transfer of technology. Hence, the concerned departments should make policies and programmes and facilitate more favourable working conditions by way of removing the above bottlenecks and educate the farmers for sustainable development of dairy farming.
- ❖ Study has shown that only a limited percentage of (15.00%) the respondents were women FEFs, Hence government may have to pay attention to recruit more women extension workers for effective transfer of technology amongst farm women as dairy is predominantly women-oriented activity.

5.4 Suggestions for future research

It is true that the findings of a single study are not adequate to make any generalizations. Therefore, it is necessary to replicate the study in other parts of the district, state and country where such conditions are prevailing. The suggestions for future research:

1. The area of research should be extended further and sufficiently large number of FEFs should be studied to draw valid and general conclusions.
2. Similar research should be taken up at periodical interval to know the changing trends and policies.
3. Other than those variables selected in present research study more background factors of FEFs which influence the role performance should be identified and included in the in future research studies.
4. In depth studies on extent of job satisfaction, job stress, and organisational climate of FEFs are to be conducted for studying factors, which contribute for job satisfaction, job stress, and organisational climate of FEFs.
5. Other types of ratings such as superior, subordinate and clientele rating could be included along with self rating to draw valid conclusions about the performance of FEFs.

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APPENDIX

**Title: Role Performance of Field Extension Functionaries in Transfer of
Technology in Dairy Sector of Bangalore Districts**

Questionnaire

Date:

Place:

PART-I

Name of respondent

Name of organization the official belongs to
(Dept. of AH & VS/ KMF/others):

Present designation / post

Address

Contact details: Phone number:

Email id:

A. Socio-personal Variables:

- 1) **Age** _____ (years)
- 2) **Gender** _____ (male/ female)
- 3) **Marital status** _____ (Married/ Unmarried)
- 4) **Education Qualification** please tick (✓)

UG / PG Graduates	
Professional UG (B.V.Sc. & AH)	
Professional PG (M.V.Sc.)	
Ph.D.	

5) Rural / urban background

Native place: _____

Rural ☐ Urban ☐

6) **Father's/ family occupation** Farming ☐ Non farming ☐

7) **Work experience** _____ (years)

Please specify details of work (last 10 years)

Sl. No.	Post held	Duration (Total no. of years)	Place of posting	Nature of job

8) **Training received**

Sl. No.	Name of training programme	Duration (Days)	Name of the organisation/ training Institute
1			
2			
3			

9) **Social participation**

Are you a member/ office bearer of any association/ professional society? YES/ NO

If yes then please specify:

Sl. No.	Name of organisation	Member	Office bearer
1.			
2.			
3.			
4.			

B. Socio- psychological variables

10) **Attitude towards work**

Kindly tick marks the appropriate response in the given column:

Sl. No.	Statements	SA 5	A 4	UD 3	DA 2	SDA 1
1	I find real enjoyment in my work since it is very interesting					
2	My work is interesting enough to keep me from getting bored					
3	I feel that other jobs are more interesting than the work I am doing					
4	The work I am doing is best and I would not change to other work					
5	Most of the time I have to force myself to go on with the work					
6	I definitely dislikes my work					
7	This work gives me opportunities to express myself					

(Where, SA-strongly agree, A- agree, UD-undecided, DA- disagree, SDA- strongly disagree)

11) Job involvement

Kindly tick marks the appropriate response in the given columns.

Sl. No.	Statements	SA 5	A 4	UD 3	DA 2	SDA 1
1	I am very much personally involve in my work					
2	I usually go for work a little early to get things ready					
3	Sometimes I keep myself awake at night thinking ahead to the next day work					
4	I live, eat and breathe for my job					
5	I have other activities more important than my work					
6	I avoid taking extra duties and responsibility in my work					

(Where, SA-strongly agree, A- agree, UD-undecided, DA- disagree, SDA- strongly disagree)

12) Achievement motivation

Please indicate your degree of agreement or disagreement to the following statements based on your experience:

Sl. No	Statements	SA 5	A 4	UD 3	DA 2	SDA 1
1	Success bring relief or further determination and not just pleasant feelings					
2	Your efforts are directed towards a goal					
3	You always seek opportunities to excel					
4	You hesitate to undertake something					
5	You avoid situation in which you may be exposed to evaluation					
6	You think that you will succeed in doing work as well you can					

(Where, SA-strongly agree, A- agree, UD-undecided, DA- disagree, SDA- strongly disagree)

13) Job stress

Please indicate your response category in appropriate column:

Sl. no.	Statements	ASS 4	SSS 3	RSS 2	NSS 1
1	I work on my unnecessary job activities				
2	My job activities are unclear to me				
3	I have to work hard to complete my work on time				
4	My job is boring				
5	My work area is too crowded				
6	I don't have authority to do my job well				
7	I am responsible for many jobs				

(Where, ASS- Always source of stress, SSS- Sometimes source of stress, RSS- Rarely source of stress, NSS- Not source of stress)

14) Job satisfaction

Please indicate your degree of satisfaction or dissatisfaction with regard to the following statements relating to your job:

Sl. No.	Statements How much satisfied you are?	MS 4	S 3	LS 2	NS 1
1	With the flexibility given by superiors to do job well				
2	With your present position when you compare it to a similar other position				
3	With the working facilities that you have in order to your job well				
4	That people of the your area give proper recognition to your work				
5	With the amount of time you devote to your job				
6	With that of promotional opportunities in your jobs				
7	with the relation you have with your co-workers and superiors				
8	With the present salary to commensurate with your work and position with job				
9	With the security you have with your job				
10	With the policies in relation to your work				

(Where, MS- most satisfied, S-satisfied, LS- less satisfied, NS- not satisfied)

C. Organisational variables**15) Organisational climate**

The statements given below are to get an insight into the organisational environment of your organisation. Please tick the appropriate response in the given column:

Sl. No.	Statements	SA (5)	A (4)	UD (3)	DA (2)	SDA (1)
1	Superiors are concerned with the growth and development of subordinate staff					
2	The guidance given by the superiors is creating a climate of achievement and commitment					
3	Business- like relation prevail here, people are warm, but get together mostly for work					
4	People in the department feel that working in the group is a strength					
5	Professional jealous, many times obstruct the people here from working together					
6	Both superiors and subordinates trust each other					
7	The good workers are given rewards and non-workers get punishment					
8	Problems are usually referred to seniors for consultation and solution are sought jointly					
9	Communication here is always one way from top to bottom					
10	People communicate information, suggestion and even criticisms to others					

(where, SA-strongly agree, A- agree, UD-undecided, DA- disagree, SDA- strongly disagree)

D. Communicational variable**16. Information seeking behaviour**

Please give particular of source from which you obtain technical information related to your job and the usefulness of such information:

Sl. No.	Name of the information source	Frequency		
		Regularly (3)	Frequently (2)	Rarely (1)
A	Formal source			
1	Senior officials			
2	Colleagues			
3	Professionals of other organisation			
4	Clientele group			
B	Informal sources			
1	Family members			
2	Friends			
3	Relatives			
C	Mass media			
1	Radio			
2	Television			
3	Seminar/ Conference/ workshop			
4	Internet			
D	Print media			
1	Farm magazine			
2	Research journal			
3	Newspaper			
4	Technical report			
	Others, if			
	1.			
	2.			

PART-II**ROLE PERFORMANCE OF FIELD EXTENSION FUNCTIONARIES IN
TRANSFER OF TECHNOLOGY (BY SELF RATING METHOD)**

Please rate the following job activities perform by you. You are requested to tick mark (✓) against each role item in four point continuum.

Sl. No.	Role activities	Level of performance			
		Regularly 4	Occasionally 3	Rarely 3	Never 1
A	Veterinary Services				
1	Providing preliminary veterinary aids or primary treatment to the animals				
2	Providing A.I. services				
3	Identify the quality bull calf produced by A.I.				
4	Conducting pregnancy diagnosis				
5	Conducting routine vaccination programmes				
6	Organising health camps				
7	Organise mobile veterinary clinics				
8	Supply of farm or veterinary inputs to the clientele group				
9	To conduct periodical survey regarding the disease occurrence				
10	Participation in collecting data for animal census				
	Any others:				
B	Extension Services				
1	Visiting farm/ home units of farmers for technical advice				
2	To organise group meeting, field day, farmers day for dissemination of new technology				
3	Organise the cattle show, calf rallies, dairy mela, milk yield competition etc.				
4	Conducting demonstration on improved dairy farming practices to the farmers				
5	To organise training programmes for farmers				

Sl. No.	Role activities	Level of performance			
		Regularly 4	Occasionally 3	Rarely 3	Never 1
6	Identifying beneficiaries for implementation of dairy and Animal husbandry oriented schemes				
7	Creating awareness and knowledge about scientific dairy farming practices				
8	Involving dairy farmers/ local leaders for transfer of technologies				
9	Meetings clientele group for follow-up/ feedback				
10	Guidance to farmers to start Dairy Co-operatives in your area				
11	Preparation and distribution of farm literature for farmers				
12	Motivating dairy farmers for enhancing participation in dairy farming				
13	Guidance to dairy farmers for availing credit facilities				
14	Guidance to dairy farmers to select high yielding dairy animals				
15	To evaluate the achievement/ performance of dairy development schemes				
16	Participation in mass media as a part of technology transfer activity ➤ TV programme ➤ Radio talk ➤ Articles in journals ➤ Web-based article ➤ Any others				
C.	Other activities				
1	Administration				
2	Maintenance of office records				
3	Supervision of sub-ordinates				
4	Attending review/ follow up meetings				
5	Interdepartmental communication				
	Any other				

PART-III**Constraint variables**

The statements given below are to get an insight into the constraint faced by you in effective transfer of technology. Please tick the appropriate response in the column:

Sl. no.	Constraints	VI 4	I 3	LI 2	NI 1
a.	Technological constraints				
1	Lack of appropriate technologies for transfer of technology				
2	Lack of knowledge about dairy development programmes among the farmers				
3	Lack of technical and financial support for dairy development programmes				
4	Reluctance of dairy farmers towards adoption improved practices and innovations				
5	Lack of participation of farmers in transfer of technology				
b.	Physical Constraints				
1	Poor infrastructure facilities				
2	Lack of input supply for programmes				
3	Poor transport facilities				
4	Poor communication facilities				
5	Lack of facilities of cold storage for medicines and vaccines				
c.	Organisational Constraints				
1	Lack of proper transfer policy				
2	Poor promotional opportunities				
3	Inadequate staff strength in department				
4	Lack of reward and recognition				
5	Lack of training to improve technical know-how				
6	Poor coordination and cooperation among different agencies working under same department				
7	Inadequate co-operation from other line departments				
8	Delay in sanction and financial allotment for implementation of programmes				
9	More administrative work				
10	Political interference				
d.	Communicational constraints				
1	Lack of access to research publication for field work				
2	Lack of time for media participation				
3	Poor communication facilities for executive work				
4	Poor Research-Extension-Farmer linkage				
e.	Economic constraints				
1	Salary is not sufficient when compared with work load				
2	Inadequate incremental pattern				

Sl. no.	Constraints	VI 4	I 3	LI 2	NI 1
3	Inadequate TA & DA				
4	Inadequate retirement benefits				
5	Irregular & inadequate supply of funds				
6	Inadequate leave				
f.	Personal Constraints				
1	Lack of support from colleagues and sub-ordinate				
2	Lack of participation in programme planning				
3	Lack of involvement in decision making				
4	Wider working jurisdiction				
5	Health problems				
6	Poor communicational skills				
g.	Any others				

(Where, VI- Very Important, I- Important, LI- Less Important, NI- Not Important)

Suggestions

Kindly suggest suitable ways & means to improve the transfer of technology to the farmers
